ARROWHEAD RESEARCH CORP

FORM 10-K
(Annual Report)

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UNITED STATES
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Washington, DC 20549

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended September 30, 2012.

☐ **TRANSITION REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission file number 000-21898

ARROWHEAD RESEARCH CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	**46-0408024**
(State of incorporation)	**(I.R.S. Employer Identification No.)**

225 S. Lake Avenue, Suite 1050
Pasadena, California 91101
(626) 304-3400
(Address and telephone number of principal executive offices)

Securities registered under Section 12(b) of the Exchange Act:

Title of each class	Name of each exchange on which registered
Common Stock, $0.001 par value	The NASDAQ Capital Market

Securities registered pursuant to Section 12(g) of the Exchange Act:
None

Indicate by a check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒

Indicate by a check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☐	Accelerated filer ☐
Non-accelerated filer ☐	Smaller Reporting Company ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

The aggregate market value of issuer's outstanding Common Stock held by non-affiliates was approximately $68 million based upon the bid price of issuer's Common Stock on March 31, 2012. Shares of common stock held by each officer and director and by each person who is known to own 10% or more of the outstanding Common Stock have been excluded in that such persons may be deemed to be affiliates of the Company. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of December 21, 2012, 15,644,158 shares of the issuer’s Common Stock were outstanding.

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FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, and we intend that such forward-looking statements be subject to the safe harbors created thereby. For this purpose, any statements contained in this Annual Report on Form 10-K except for historical information may be deemed to be forward-looking statements. Without limiting the generality of the foregoing, words such as "may," "will," "expect," "believe," "anticipate," "intend," "could," "estimate," or "continue" or the negative or other variations thereof or comparable terminology are intended to identify forward-looking statements. In addition, any statements that refer to projections of our future financial performance, trends in our businesses, or other characterizations of future events or circumstances are forward-looking statements.

The forward-looking statements included herein are based on current expectations of our management based on available information and involve a number of risks and uncertainties, all of which are difficult or impossible to predict accurately and many of which are beyond our control. As such, our actual results may differ significantly from those expressed in any forward-looking statements. Factors that may cause or contribute to such differences include, but are not limited to, those discussed in more detail in Item 1 (Business) and Item 1A (Risk Factors) of Part I and Item 7 (Management's Discussion and Analysis of Financial Condition and Results of Operations) of Part II of this Annual Report on Form 10-K. Readers should carefully review these risks, as well as the additional risks described in other documents we file from time to time with the Securities and Exchange Commission. In light of the significant risks and uncertainties inherent in the forward-looking information included herein, the inclusion of such information should not be regarded as a representation by us or any other person that such results will be achieved, and readers are cautioned not to place undue reliance on such forward-looking information. Except as may be required by law, we disclaim any intent to revise the forward-looking statements contained herein to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events.

PART I

ITEM 1. BUSINESS

Description of Business

OVERVIEW

Arrowhead Research Corporation is a clinical stage targeted therapeutics company with development programs in oncology, obesity, and chronic hepatitis B virus infection. Arrowhead is focused on creating new therapeutics that are preferentially taken up by target tissues in order to maximize a drug's efficacy and potentially limit side effects associated with exposure to healthy cells. Arrowhead has assembled a broad set of technologies and licenses to enable targeted RNAi therapeutics capable of silencing specific gene products in specific cells. Arrowhead has also assembled a proprietary targeting library that may be used with its RNAi platforms as well as with small molecule or peptide drugs. These platforms have yielded several drug candidates under both internal and partnered development.

Lead Product Candidates

- Adipotide ® is an anti-obesity peptide that has been shown to promote weight loss in animal models. It is the first drug candidate from Arrowhead's Homing Peptide™ platform and entered a phase 1 clinical trial in 2012.
- ARC-520 is an RNAi-based therapeutic designed to treat chronic hepatitis B virus (HBV) infection. It is the first drug candidate from Arrowhead's Dynamic Polyconjugates ® siRNA delivery platform and is expected to enter clinical trials in 2013.
- CALAA-01 is an RNAi-based therapeutic that targets solid tumors. It employs the RONDEL™ RNAi delivery technology and completed a phase 1b clinical trial in 2012.

Platform Technologies

- The Dynamic Polyconjugate ® (DPC ®) platform is a small RNA delivery system that may be targeted to address multiple organ systems and cell types. It is a modular system that may be optimized on a target-by-target basis and has been demonstrated to promote multi-log gene knockdown in rodents and non-human primates, induce efficient endosomal escape, and has wide safety margins using a variety of siRNA molecules.
- RONDEL is a small RNA delivery system that has demonstrated effective systemic siRNA delivery, RNAi-mediated mRNA and protein knockdown in human melanoma patients.
- Arrowhead's Homing Peptides platform is a vast, proprietary library of short peptides that have demonstrated rapid and specific internalization into a wide variety of cell types. This library is being mined for the potential development of peptide-drug conjugates (PDCs) and companion diagnostics. Arrowhead plans to develop the targeting peptides for use with its RNA delivery platforms as well as with traditional small molecule or peptide drugs.

Primary Strategic Opportunities

- *Delivering siRNA*

  RNA interference (RNAi) is a naturally occurring mechanism that effects gene expression. Short interfering RNAs (siRNAs) have been shown to trigger RNAi and are thought to be a potentially powerful and specific way of silencing expression of disease-causing gene products. However, the lack of effective and safe delivery has impeded progress of the field. Arrowhead has multiple polymer-based, non-lipid delivery systems that enable development of RNAi therapeutics. Importantly, Arrowhead's delivery systems have been validated in multiple species and have demonstrated high levels of efficiency and specificity with wide safety margins.

- *Enabling Targeted Drugs*

  Examples of guided therapeutics producing positive patient outcomes are rapidly emerging. Arrowhead's human-derived targeting library, comprised of over 42,000 peptides, is being mined to create PDCs designed to home specifically to target cells. PDCs have the potential to produce the advantages of antibody drug conjugates while bringing new benefits such as ease of manufacturing.

- *Patient Population Enrichment Strategies*

  Arrowhead's targeting library can be used for companion diagnostics that identify patient populations most likely to respond to a particular treatment, thus moving toward more personalized medicine.

- *Improving Generics*

  Arrowhead's targeting library can be used to make PDCs with generics designed to have an improved efficacy and safety profile as compared to untargeted counterparts.

Arrowhead's internal drug pipeline is intended to drive value directly through the development of novel therapeutics and to provide proof of concept for the platform technologies. We actively seek collaboration and licensing agreements with leading biopharmaceutical companies to augment their pipelines through the application of our technologies and to advance the development and commercialization of our own technology platforms and drug candidates. Partnerships are intended to provide access to external expertise and capital to complement our internal development and create commercialization opportunities in areas outside of our core focus.

RECENT EVENTS

Fiscal 2012 brought substantial change to Arrowhead. We have executed on our long-term strategy of transitioning from a nanotechnology holding company in multiple industries to a focused biotech model. We are now a unified therapeutics company developing actively guided drugs that interact preferentially with target tissues based on broad RNAi and peptide targeting technology platforms.

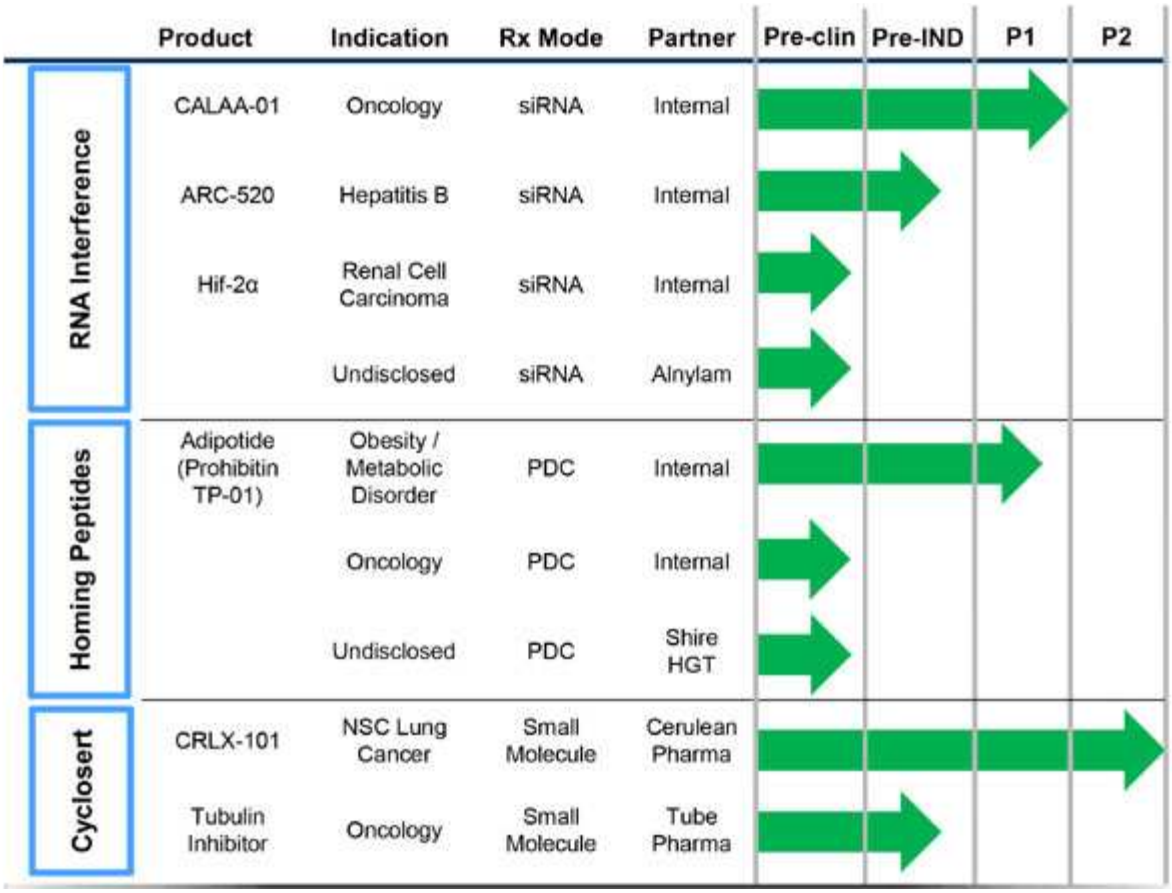
Arrowhead made two acquisitions in fiscal 2012. These acquisitions included new technology platforms, R&D infrastructure and expertise, and operating and business development management. We believe these acquisitions provide us with a solid foundation to discover and develop drug candidates and support partnerships that we expect will drive long-term value for our shareholders. Some of the key steps in this transformation were:

- Acquired the RNAi therapeutics business assembled by Roche, which provided us with the following:
  - siRNA delivery technologies, the most advanced of which is Dynamic Polyconjugates (DPCs);
  - License to multiple siRNA structures and chemistries in key therapeutic areas;
  - A state-of-the-art 24,000 square foot R&D facility with complete small animal facilities;
  - R&D staff of 40 scientists; and
  - Multiple pre-clinical drug development programs, including an siRNA therapeutic for chronic hepatitis B infection, which is approaching an IND filing as ARC-520.
- Acquired Alvos Therapeutics, Inc. providing Arrowhead with a library of peptide targeting sequences used to create PDCs as well as intellectual property that can be used to generate novel targeting antibodies;
- Augmented our management team by hiring accomplished biopharma executives Bruce Given, M.D. as Chief Operating Officer and Head of R&D, and Brendan Rae, Ph.D., J.D., as Chief Business Officer;
- Created a centralized infrastructure for the management of clinical trials; and
- Integrated and consolidated R&D operations in the Madison facility, including work on the RONDEL siRNA delivery system and CALAA-01 candidate, our suite of obesity/metabolic disease compounds including the Adipotide candidate, and the Homing Peptide discovery and development programs;

These steps have created an integrated development operation that allows Arrowhead to advance multiple programs simultaneously. Since our drug development strategy is unified around actively targeted delivery, our R&D operations are synergistic across drug candidates and platforms. Additionally, Arrowhead now has the infrastructure, expertise, IP portfolio, and management that we believe is necessary to attract and support a broad range of partnerships and research collaborations with large biopharma companies from discovery stage through clinical trials.

PIPELINE OVERVIEW

Arrowhead is focused on delivering drugs preferentially to their site of action while avoiding non-specific uptake in off-target tissues. Our platform technologies are being developed to enable new therapeutic modalities through targeted delivery and enhanced pharmacokinetics. In particular, our polymeric delivery systems, Dynamic Polyconjugates and RONDEL, have been formulated with small RNAs to develop drug candidates to address diseases such as cancer and HBV through the mechanism of RNAi. The ability to deliver the fragile siRNA molecules that induce RNAi is the key enabler of this important new field of medicine. Our Homing Peptide platform is being used in a clinical obesity therapeutic study and in preclinical studies targeting cancer.



Internal Clinical Programs

ARC-520 – Hepatitis B Virus Infection

According to the World Health Organization, 360 million people worldwide are chronically infected with hepatitis B virus, of which 500,000 to 1,000,000 people die each year from HBV related liver disease. Chronic HBV infection is defined by the presence of hepatitis B surface antigen (HBsAg) for more than 6 months. In the immune tolerant phase of chronic infection, which can last for many years, the infected person typically produces very high levels of viral DNA and viral antigens. However, the infection is not cytotoxic and the carrier may have no symptoms of illness. Over time, the ongoing production of viral antigens causes inflammation and necrosis, leading to elevation of liver enzymes such as alanine and aspartate transaminases, hepatitis, fibrosis, and liver cancer (HCC). If untreated, as many as 25% to 40% of chronic carriers develop cirrhosis or HCC. Antiviral therapy is prescribed when liver enzymes become elevated.

The current standard of care for treatment of chronic HBV infection is a daily oral dose of nucleotide/nucleoside analogs (NUCs) or a regimen of interferon injections 2 to 7 times weekly for approximately one year. NUCs are generally well tolerated, but patients may need lifetime treatment because viral replication often rebounds upon cessation of treatment. Interferon therapeutics can result in a functional cure in up to 20% of some patient types, but treatment is often associated with significant side effects, including severe flu-like symptoms, marrow suppression, and autoimmune disorders.

We see the need for a next generation HBV treatment with fewer side effects, that eliminates the need for interferon based treatment, has a finite treatment period and an attractive dosing regimen, and one that can be used at earlier stages of disease. We believe a novel therapeutic approach that can effectively treat or provide a functional cure (development of patient antibodies against HBsAg) has the potential to take significant market share and may expand the available market to include patients that are currently untreated.

ARC-520 is an siRNA therapeutic intended for delivery to the active site of infection using our proprietary Dynamic Polyconjugate (DPC) technology. ARC-520 consists of two siRNA duplexes, each conjugated to a cholesterol derivative to enhance liver delivery and cellular uptake. We have designed ARC-520 to be co-administered with an active excipient, a masked, hepatocyte targeted polymeric amine. Once the siRNAs and the active excipient are taken up by the hepatocytes, the polymeric amines are unmasked in the endosome and disrupt the endosomal membrane, releasing the siRNA to the cytoplasm where it can engage the RNAi machinery of the cell.

The siRNAs in ARC-520 are designed to target multiple components of HBV production including the pregenomic RNA that would be reverse transcribed to generate the viral DNA. The siRNAs in ARC-520 target the mRNAs that produce HBsAg proteins, the viral polymerase, the core protein that forms the capsid, and the HBeAg. A reduction of viral antigens is considered necessary to effective therapy because the presence of viral proteins is thought to be a major contributor to the persistence of liver disease secondary to HBV infection.

Efficacy data in mouse models of HBV infection show that ARC-520 is capable of reducing HBsAg by greater than 3 log (99.9%), HBV DNA by approximately 3 log, and HBeAg to the limit of detection. Pharmacologic effects persist for approximately one month after a single dose of ARC-520. Safety data in rodents and non-human primates indicate an acceptable safety margin. We are currently conducting IND-enabling studies with a goal to enter a Phase 1 clinical study in 2013.

Adipotide (Formerly Prohibitin-TP01) – Obesity and Metabolic Disorders

Obesity is a global health threat and one of the leading causes of preventable deaths in the United States. Arrowhead's anti-obesity drug candidate, Adipotide, was designed to selectively disrupt the blood supply that supports unhealthy fat by the targeted induction of apoptosis (cell death) in the vasculature of adipose tissue. The Adipotide peptide consists of two functional domains. The homing domain targets a membrane associated protein, Prohibitin, on adipose vascular endothelial cells. The membrane disrupting domain causes apoptosis by disrupting mitochondrial membranes inside the cells.

An Investigational New Drug Application (IND) for Adipotide was filed with the FDA, and we began enrolling patients in 2012 as part of a Phase 1 clinical trial to test the safety of the compound in human patients. Our collaborator, MD Anderson Cancer Center in Houston, plans to enroll up to 39 obese prostate cancer patients in the Phase 1 study and has agreed to bear all direct costs of this trial. Up to five dose levels of the drug candidate will be tested in the trial. Three participants will be enrolled at each dose level, with the first group of participants receiving the lowest dose level by injection under the skin once per day for 28 days and each new group receiving a higher dose than the group before it, if no intolerable side effects are seen. This will continue until the highest tolerable dose is found or the study terminates.

Potential Advantages of Adipotide:

- Shown to promote weight loss of 11% to 30% of total body mass in preclinical studies using rodents and spontaneously obese rhesus monkeys after just 28 days of treatment;
- Shown to reduce abnormalities in blood chemistry associated with diabetes;
- Novel mechanism of action compared to other known therapeutics on the market or in clinical trials;
- No modulation of neurotransmitters seen in pre-clinical studies, thus unlikely to have psychological side effects;
- No amphetamine-like mechanism of action and thus unlikely to yield GI side effects.

Adipotide is based on Arrowhead's Homing Peptide™ library developed at MD Anderson Cancer Center. White adipose (fat) tissue is highly vascularized and both the expansion and maintenance of adipose tissue depend on a continued ability to build supporting vasculature. This peptide targeting library provides a map of the unique cell receptors on the vasculature that varies in different tissues. Targeting vasculature based on this variation allows for specific delivery of drug payloads to specific target cells, while avoiding collateral injury to other healthy/non-targeted cells. Using this technique, peptide sequences that target receptors specific to white adipose tissue were identified. Adipotide has been developed by our majority-owned subsidiary, Ablaris Therapeutics, Inc. ("Ablaris"). Arrowhead owns 64% of the fully diluted shares of Ablaris.

CALAA-01 – Solid Tumors

CALAA-01 is a combination of our RONDEL delivery technology and a patented siRNA targeting the M2 subunit of ribonucleotide reductase, a clinically-validated cancer target. Ribonucleotide reductase catalyzes the conversion of ribonucleosides to deoxyribonucleosides and is necessary for DNA synthesis and replication, and thus tumor growth. The internally developed siRNA demonstrates potent anti-proliferative activity across multiple types of cancer cells. CALAA-01 was the first siRNA therapeutic candidate to target cancer in a human clinical study and we believe was also the first successful systemic delivery of an siRNA therapeutic candidate.

In August 2012 enrollment into the Phase 1 clinical trial was completed. Adverse events observed coincided with an increase in certain cytokine levels. Elevation in cytokines is consistent with an acute immune response to the natural siRNA used in CALAA-01. These reactions also appeared to be transient, such that if a patient stayed on CALAA-01, the cytokine responses often subsided. Based on these results, a Phase 1b trial was initiated using a modified dosing schedule in which patients were pretreated with a lower dose to assess whether this strategy can increase patient safety and further increase the maximum tolerated dose. Patient enrollment was completed in August 2012 and analysis of final study data is being prepared.

Interim clinical results were presented at the 2010 American Society of Clinical Oncology meeting (ASCO). Data from 15 patients accrued to 5 dose levels (3, 9, 18, 24, 30 mg/m ^{2}) showed that treatment-related adverse events were mostly mild to moderate with fatigue, fever/chills, allergic, or gastrointestinal-related adverse events most frequently observed. Importantly, no changes in coagulation, liver function tests, or kidney function were observed.

Analysis of tumor biopsies from three melanoma patients showed the presence of intracellular nanoparticles in amounts that correlated with dose. Additionally, a reduction was found in both the RRM2 messenger RNA and protein levels when compared to pre-dosing tissue. Furthermore, the presence of siRNA-mediated mRNA cleavage products was confirmed by 5'-RACE, demonstrating that siRNA-mediated mRNA cleavage occurred specifically at the site predicted for an RNAi mechanism. These results were published in March 2010 in the scientific journal *Nature* , citing these interim data from our Phase 1 trial as the first evidence of systemic delivery of siRNA, and the successful "silencing" of a widely recognized cancer gene via RNA interference in humans.

Partnered Programs

Cyclosert and CRLX-101 (formerly IT-101)

The linear cyclodextrin-based drug delivery platform, Cyclosert, was designed for the delivery of small molecule drugs. In December 2008, we completed a Phase 1 trial with IT-101, a conjugate of the linear cyclodextrin polymer and Camptothecin, a potent anti-cancer drug, with a positive safety profile and indications of efficacy.

In June 2009, we entered into a transaction with Cerulean Pharmaceuticals, Inc., a privately-held Boston, Massachusetts based company. Cerulean licensed rights to further research and commercialize IT-101 (now known as "CRLX-101"), and the Cyclosert platform for all products except for nucleic acids, tubulysin, cytolysin and second generation epothilones. In connection with the transaction, we assigned certain patents to Cerulean and Cerulean granted back to us rights necessary to research and commercialize the excluded products. As such, we retain the rights to the RONDEL siRNA delivery platform, as well as CALAA-01.

We received an initial payment of $2.4 million, and may receive development and sales milestones, and royalty payments if CRLX-101 or other products based on the Cyclosert platform are successfully developed. Should Cerulean sublicense CRLX-101 to a third party, we are entitle to receive a percentage of any sublicensing income at rates between 10% and 40%, depending on the stage of the drug's development at the time of sublicensing.

Tubulin Inhibitor

Arrowhead has a license and joint development agreement with Vienna, Austria based biotech Tube Pharmaceuticals GmbH, which grants Tube Pharma the right to develop Cyclosert enabled tubulin inhibitors. Tubulysins are a novel tubulin-targeted class of natural compounds with potent anti-proliferative activity against multiple cancer types. Tube Pharma is conducting preclinical studies. Arrowhead is eligible to receive milestones and royalties on sales.

Alnylam Pharmaceuticals

In January 2012, Arrowhead granted Alnylam Pharmaceuticals, Inc., ("Alnylam") a license to utilize the Dynamic Polyconjugate delivery technology for a single RNAi therapeutic product. Alnylam is collaborating with Arrowhead to develop this technology for an undisclosed target in its "Alnylam 5x15" pipeline, which is focused on genetically defined targets and diseases. Arrowhead is eligible to receive milestone payments and royalties on sales from Alnylam.

Shire

In December 2012, Arrowhead signed a research collaboration and license agreement with Shire AG to develop and commercialize targeted peptide-drug conjugates (PDCs) utilizing Arrowhead's human-derived Homing Peptide platform and Shire's therapeutic payloads. Arrowhead may receive research funding and could be eligible for development, regulatory, and commercialization milestone payments of up to $32.8 million for each development candidate, plus additional milestone payments for a second indication, and royalties on worldwide sales.

Preclinical Programs

In addition to our clinical candidates and our partner-based programs, we are actively engaged in the discovery and development of additional pre-clinical stage products. We focus on disease targets that are well suited for intervention with guided therapeutics like our PDCs and targeted RNAi therapeutics using our DPC delivery platform. These may include liver disease, oncology, and other therapeutic areas.

RNAI DELIVERY PROGRAM

In October 2011, Arrowhead acquired Roche's RNAi business, including its RNA therapeutic assets, related intellectual property and research facility in Madison, Wisconsin. We believe that these assets position Arrowhead as one of the most advanced and broadest RNAi therapeutics companies in the world. Arrowhead now possesses the following siRNA assets:

- Non-exclusive license from Alnylam to use canonical siRNAs in oncology, respiratory diseases, metabolic diseases and certain liver diseases. This includes a sub-license from Isis Pharmaceuticals giving Arrowhead license for siRNA chemical modifications for these specific disease areas.
- Non-exclusive license from City of Hope Comprehensive Cancer Center to Dicer substrate and Meroduplex siRNAs. The Dicer technology may provide advantages over canonical siRNAs in certain circumstances. In addition, different siRNA formats may trigger RNAi more or less efficiently on a target-by-target basis.
- Patent estate covering the Dynamic Polyconjugate siRNA delivery system.
- Access to certain patents on targeting siRNA drugs with antibodies and small molecules.

- State-of-the-art laboratory facilities in Madison, Wisconsin, managed by long term leaders in oligonucleotide therapeutics and delivery, including a small animal research facility and an offsite primate colony.
- Intellectual property covering Roche's internally developed liposomal nanoparticle drug delivery technology.
- RONDEL siRNA delivery system which has demonstrated gene knockdown in humans in the CALAA-01 clinical trial.
- Minority ownership position in Leonardo Biosystems, Inc., a private company developing a multi-stage silicon-based delivery system.
- CALAA-01 Phase 1 oncology drug candidate.

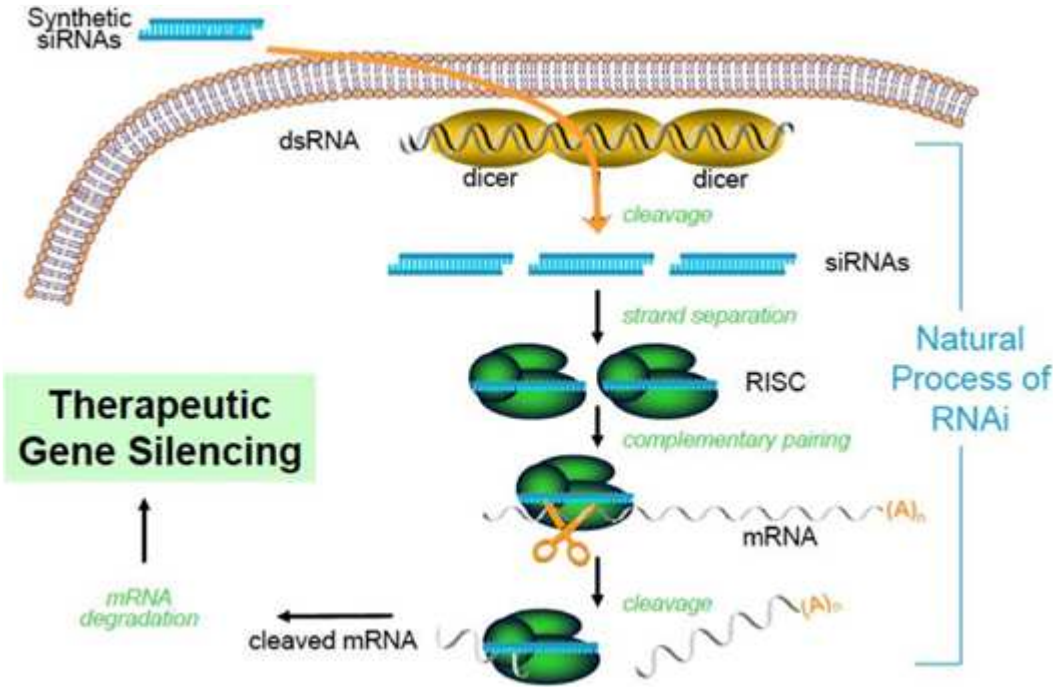
We believe this represents one of the broadest siRNA drug technology and delivery portfolios in the world.

RNA Interference & the Benefits of siRNA Therapeutics

RNA interference (RNAi) is a mechanism present in living cells that inhibits the expression of a specific gene, thereby affecting the production of a specific protein. Deemed to be one of the most important recent discoveries in life science with the potential to transform medicine, the discoverers of RNAi were awarded a Nobel Prize in 2006 for their work. Mediated by small interfering RNAs (siRNA), a class of ribonucleic acid (RNA) molecules, 20-25 nucleotides in length, RNAi-based therapeutics can leverage this natural pathway of gene silencing to potentially target and shut down specific disease causing genes.

Small molecule and antibody drugs have proven effective at inhibiting certain cell surface, intracellular, and extracellular targets. However, certain drug targets such as intranuclear genes and some proteins have proven difficult to inhibit with traditional drug-based and biologic therapeutics. Developing effective drugs for these targets would have the potential to address large underserved markets for the treatment of many diseases. Using the ability to specifically silence any gene, siRNA therapeutics may be able to address previously "undruggable" targets, unlocking the market potential of such targets.

Mechanism of RNA interference



Advantages of RNAi as a Therapeutic Modality

- Silences the expression of disease causing genes;
- Potential to address any target in the transcriptome including previously "undruggable" targets;
- Rapid lead identification;
- High specificity;
- Opportunity to use multiple RNA sequences in one drug product for synergistic silencing of related targets; and
- siRNAs are uniquely suited for personalized medicine through target and cell specific delivery and knockdown.

Addressing the siRNA Delivery Challenge

To date, the primary challenge to the development of siRNA therapeutics has been delivering the fragile, often immunogenic and otherwise rapidly cleared siRNA molecules, into the cytoplasm of the cell, where RNAi activity occurs. This hurdle has prevented siRNA therapeutics from reaching full potential. Many companies have attempted to overcome the delivery challenge. Most early systems involved cholesterol conjugates or liposomes. However, development in humans has been limited due to toxicity and immunogenicity of these approaches when studied in clinical trials.

To address the delivery challenge, Arrowhead has a leading team of researchers with extensive siRNA therapeutic know-how and two validated delivery platforms:

- The Dynamic Polyconjugate system is an amphipathic polymer to which shielding agents and targeting ligands are reversibly attached.
- The RONDEL ™ delivery system utilizes targeted cyclodextrin polymers to deliver siRNA and other oligonucleotides to tumors. Human *in vivo* gene knockdown has been demonstrated in a Phase 1 cancer trial, establishing human proof of concept for the RONDEL system.

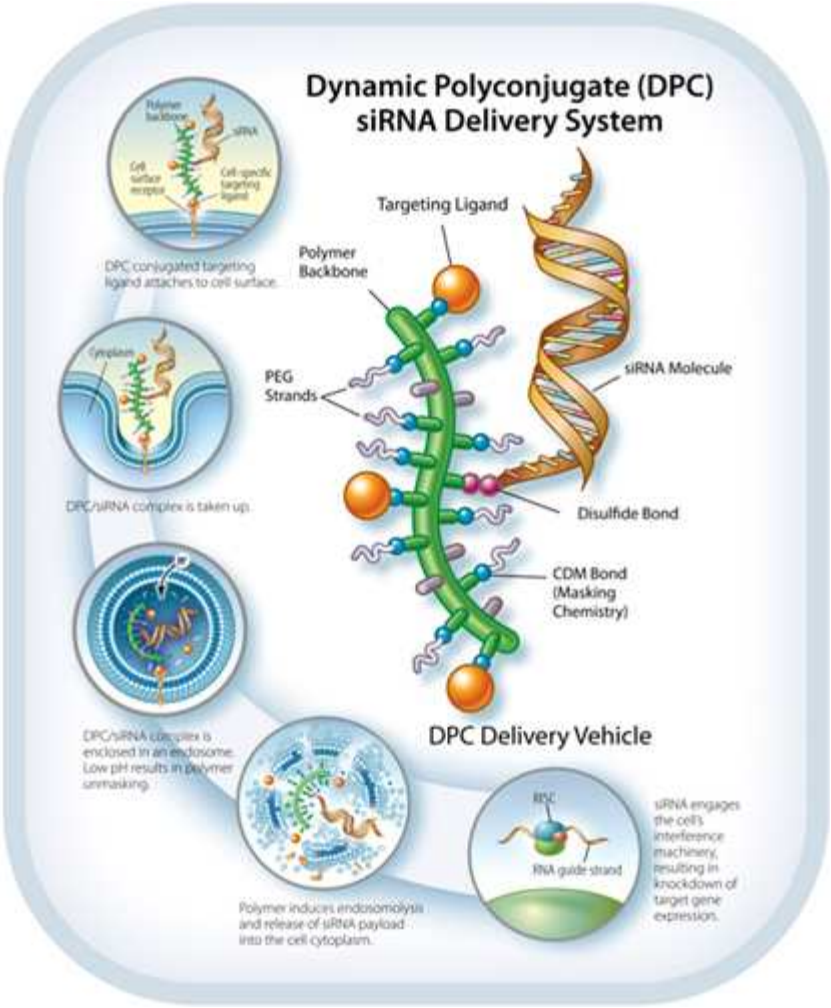
These are both modular systems that may be optimized on a target-by-target basis. Importantly, they also may be targeted to address a variety of tissues.

The Dynamic Polyconjugate siRNA Delivery System

The DPC delivery system represents an innovative solution to the siRNA delivery problem, specifically designed to overcome barriers to systemic administration of siRNA. Developed by our scientists in Madison, Wisconsin, the inspiration for DPC technology came from the physical characteristics of viruses, nature's own nanoparticles for nucleic acid delivery. Viruses are efficient at finding their target cells and delivering their nucleic acid payload to the proper cellular compartment. Key features of viruses are their small size, their overall negative surface charge, their specificity for particular cell types based on receptors unique to that cell, and their ability to disassemble and release their nucleic acid cargo to the proper cell compartment in response to cellular triggers. All of these features are incorporated into DPC technology.

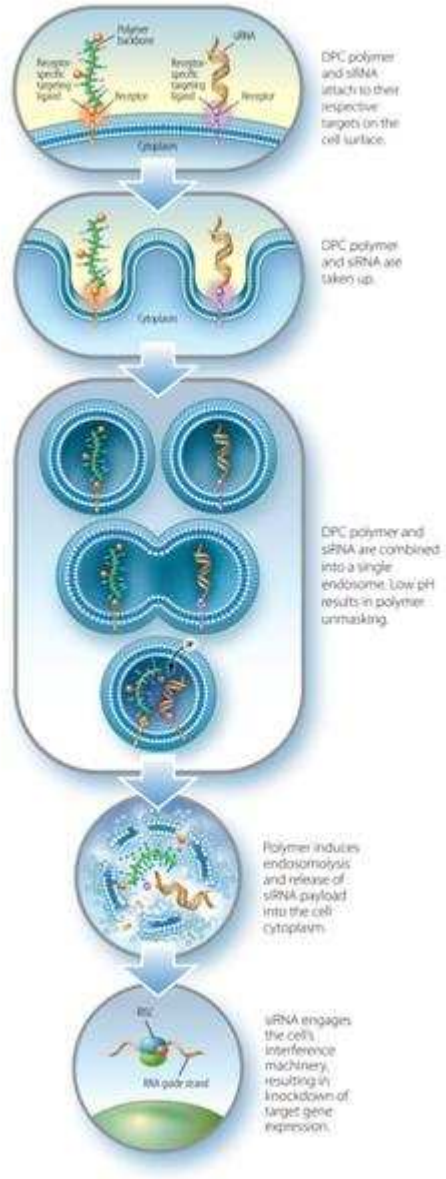
DPCs are small nanoparticles, 5-20 nanometers (nm) in size, with an amphipathic polymer backbone. Arrowhead has a library of polymers that may be employed with the system, enabling optimization based on factors such as preferred mode of administration, pharmacokinetics, and target tissue. Shielding agents such as polyethylene glycol and targeting ligands are reversibly attached to the polymer backbone. In some constructs, the siRNA payload is attached to the DPC, while in other constructs, the siRNA circulates attached to a different carrier. When attached, the DPC construct protects the siRNA payload while allowing the polymer to circulate in the blood without creating undue toxicity. The targeting ligand guides the nanoparticles to the cell of interest where, together with the siRNA, it is taken up into a membrane-enclosed cellular compartment known as an endosome. The polymer is selected for its ability to disrupt the endosomal membrane which releases the siRNA into the cytoplasm. There, it engages the cell's RNAi machinery, ultimately resulting in knockdown of target gene expression. This lytic chemistry of the DPC polymeric backbone is modified, or "masked", using proprietary chemistry. Masking of the polymer's lytic chemistry accomplishes two interrelated objectives that are critical to *in vivo* siRNA delivery:

- Reduction of toxicity by controlling when the membrane lytic property of the polymer is activated.
- Inhibition of non-specific interactions with blood components and non-targeted cell types.



Arrowhead has developed multiple forms of the prototypical DPC delivery system. Our ARC-520 clinical candidate utilizes a formulation where the siRNA is conjugated to cholesterol and is not attached to the DPC. Pre-clinical studies have shown co-injection of liver-targeted DPC polymer together with siRNA conjugated to a lipophilic moiety, such as cholesterol, results in a >500-fold increase in the potency when compared to the siRNA-cholesterol alone. This formulation retains the potent endosomal escape capabilities of Arrowhead's DPC platform, simplifies drug manufacturing, and creates new targeting opportunities.

DPCs using Co-injection Strategy

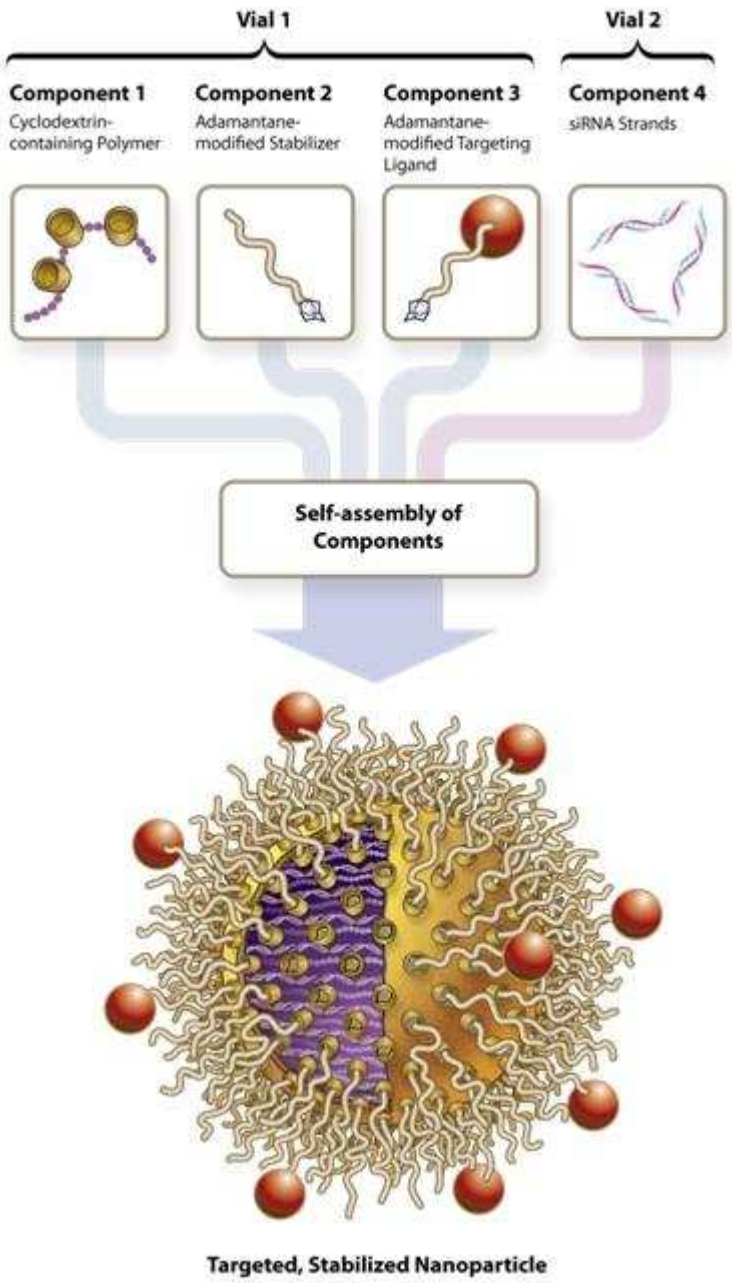


A DPC formulation for subcutaneous administration has also been developed using Arrowhead's latest proprietary polymer masking technology. Using DPCs to deliver siRNA, high-level target gene knockdown is observed at low siRNA doses with limited toxicity in rodents and non-human primates. Arrowhead studies have shown knockdown of 99% in monkeys after a single injection of 1 mg/kg, >90% at 0.5 mg/kg, and 80% in mice at 0.05 mg/kg, which represents greater knockdown at lower doses than reported results of other clinical candidates. PK and biodistribution studies indicate that the new masking technology is highly stable, allowing for maximal bioavailability and long circulation times. Arrowhead is developing this formulation for use in multiple therapeutic areas including oncology.

RONDEL Delivery System

For this delivery system, polymers form the foundation for a three-part RNAi/Oligonucleotide Nanoparticle Delivery (RONDEL) technology. The first component is the positively charged polymer that, when mixed with siRNA, binds to the negatively charged "backbone" of the siRNA. The polymer and siRNA self-assemble into nanoparticles less than 100 nm diameter that are designed to protect the siRNA from nuclease degradation in serum. The cyclodextrin in the polymer enables the surface of the particles to be decorated by stabilizing agents and targeting ligands. These surface modifications are formed by proprietary methods involving the cyclodextrins. The surface-modifying agents have terminal adamantane groups that form inclusion complexes with the cyclodextrin and contain polyethylene glycol (PEG) to endow the particles with properties that prevent aggregation, enhance stability and enable systemic administration. Targeting molecules can be covalently attached to the adamantane-PEG modifier, enabling the siRNA-containing particles to be targeted to tissues of interest.

RONDEL Nanoparticle



Based on a novel polymeric sugar (linear cyclodextrin) molecule, RONDEL has been applied thus far to the delivery of two classes of therapeutics: siRNA and small molecule drugs. The polymer is combined with the drug molecule to form a drug containing nanoparticle between 10 nanometers and 100 nanometers in size. We believe that this particle size is important because drug molecules below 10 nanometers are quickly cleared from the body in the urine while nanoparticles larger than 100 nanometers are not always able to escape the tumor vasculature to reach tumor cells. Nanoparticles between 10 and 100 nanometers can lead to preferential accumulation in tumor tissue, where the drug can take effect, leaving other tissues less affected. The drug delivery system has the added benefits of increasing solubility and allowing targeting of the nanoparticles.

The RONDEL delivery system offers the following advantages:

- Generalized delivery system —Binds to and self-assembles with the siRNA to form uniform colloidal-sized particles. Analysis has shown that these particles are spherical and between 10 nm and 100 nm in diameter.
- Any siRNA sequence can be easily substituted—Because RONDEL binds to the siRNA backbone, other siRNAs sequences can be easily incorporated to form a new drug product.
- Safety —The RONDEL technology has been shown to have a positive safety profile *in vitro* testing with human cell cultures, and the fully formulated polymer/siRNA particles exhibit a significant therapeutic window of safety in animals, even when repeated doses (up to eight doses over a four week period) are used.
- Effective targeted delivery —We have demonstrated successful delivery of functional siRNA therapeutics to tumor cells and to hepatocytes by systemic administration and confirmed sequence-specific gene inhibition.
- Human proof of concept —CALAA-01, the first clinical candidate developed using the RONDEL system, has established several important "firsts" in human testing of an siRNA therapeutic including first to show systemic siRNA delivery, first to show dose dependent accumulation in target cells and first to show RNAi mediated mRNA and protein knockdown.

CALAA-01 and RONDEL have been developed by Arrowhead's majority-owned subsidiary, Calando Pharmaceuticals, Inc. ("Calando'). Arrowhead owns 74% of the fully diluted shares of Calando.

HOMING PEPTIDE PROGRAM

In April 2012, Arrowhead acquired Alvos Therapeutics, Inc. ("Alvos"). Alvos licensed a discovery platform and large library of proprietary human-derived Homing Peptides from the MD Anderson Cancer Center. This discovery platform is designed to identify targeting agents, such as peptides, that selectively accumulate in primary and metastatic tumors, associated vasculature, and to 30 healthy tissue types. Such targeting agents are of interest for drug development because they hold the promise of shepherding drugs into specific cells while sparing others. This new platform was acquired because it fit well into our existing business. One of the key advantages of our RNA delivery systems is their ability to be targeted. With a vast proprietary targeting library of our own, we believe that we can enhance the value of our RNAi programs and differentiate our capabilities from those of our competitors. In addition, we believe that we can apply the homing peptide sequences to non-RNA therapeutics and present attractive value to potential partners. The platform has the potential to allow Arrowhead to:

- Develop therapeutic agents that hunt down and destroy known tumors, as well as distant unidentified metastases;
- Convert cancer therapeutics that generally interact with most cells in the body to "smart" drugs that accumulate primarily at tumor sites and affect cancer cells preferentially, thereby improving the toxicity and side effects of currently used cancer drugs; and
- Selectively target non-cancer therapeutics to virtually any tissue type in the body where they can have the desired pharmacologic effect.

This platform is potentially powerful in the specificity of the targeting sequences, the large number of unique sequences and their origin from human screening. In addition, because of the human-based identification process, there is lower risk that animal model data will not translate. Our proprietary library of 42,000 unique targeting sequences can be used with our own delivery platforms, as well as with small molecule drugs. This platform has achieved clinical proof of concept in targeting metastatic prostate cancer with the first sequence tested in humans.

Drs. Renata Pasqualini and Wadih Arap, who developed this technology, run a large laboratory at MD Anderson Cancer Center. They focus on discovering novel cell-surface receptors and validated receptors on tumor sites and identifying peptide sequences that will bind to those receptors. Importantly, their method identifies peptides that are rapidly internalized into cells. These peptide-receptor pairs hold the promise of shuttling therapeutic payloads preferentially and directly into those cells. The ability to target and deliver cytotoxins would address some of the problems with current cancer therapeutics by limiting side effects and increasing efficacy.

In order to discover these receptors and sequences that target them, Drs. Pasqualini and Arap used a technique called *in vivo* phage display. Over the past several years they have applied phage display screening to end-stage cancer patients with primary and metastatic tumors under rigorous ethical standards. To our knowledge, they are the only group in the world that is generating this type of human-derived data. Direct screening in human cancer patients has the potential to eliminate some of the uncertainty that has plagued current discovery methods with animal models. This strategy sought to map the human vasculature into "zip codes" and has discovered a large number of novel receptors that are expressed only on the cell surface of tumor sites and nowhere else. The library can be further increased by continuing to work with MD Anderson to screen additional patients.

Arrowhead is working to apply this technology to targeting our proprietary siRNA delivery vehicles. Our two primary delivery platforms, DPCs and RONDEL, are highly attractive in part because they have been shown to be well tolerated, effective, capable of delivering RNAs to multiple organ systems, and they are targetable. The Homing Peptide library provides our targeted therapeutic program with a powerful new source of flexibility. The library is also valuable in creating a new class of therapeutics, Peptide-Drug Conjugates, or PDCs. By linking the Homing Peptides to traditional small molecule drugs we can potentially transform a therapeutic that interacts with most cells in the body into one that interacts preferentially with the cell of choice. We believe that this transition from untargeted to targeted drugs is a paradigm shift for cancer therapeutics and that our new library puts us at the forefront of this transformation. We intend to build our own pipeline and work with partners to apply our targeting sequences to their drugs. We believe that this specific targeting will enable us to make existing generics safer and more effective and we intend to work with partners to help make their proprietary drugs better. Given the large number of approved APIs for oncology and the thousands of Homing Peptide sequences that we now have, there are many potential combinations of targeting sequence and drug molecules.

PDCs share the promise of the original class of guided therapeutics, antibody-drug conjugates or ADCs, in that they could increase efficacy and decrease toxicity relative to current standard of care oncology products. Benefits of PDCs as a class are as follows:

- They are potentially faster, cheaper, and simpler to make than ADCs, making them attractive development projects for biopharmaceutical companies;
- Their targets are expressed on a high percentage of multiple tumor types, giving them a larger potential commercial market than genetically targeted agents that are efficacious in only a small subset of patient populations; and
- The use of Homing Peptides that were discovered in human cancer patients as the targeting moieties for PDCs potentially increases clinical probability of success.

We believe this unique mix of benefits will be attractive to potential partners in the biopharmaceutical industry. This technology has the potential to facilitate the rapid development of multiple new product candidates, each of which could meet a critical unmet medical need. In addition, screening in man has broad applicability in other therapeutic areas of interest to the biopharmaceutical industry.

Intellectual Property

We control approximately 154 issued patents (including European validations) and 292 patent applications. The pending applications have been filed throughout the world, including, in the United States, Argentina, Australia, Brazil, Canada, Chile, China, Europe, the Arab States of the Gulf, Israel, India, Japan, Republic of Korea, Mexico, Peru, Philippines, Russian Federation, Singapore, Thailand, Taiwan and Venezuela.

RONDEL

Calando controls an intellectual property portfolio of patents directed to certain linear cyclodextrin polymers and related technology (the “Linear Cyclodextrin System”). The portfolio is directed to both RONDEL and Cyclosert. In June 2009, Calando sold and assigned to Cerulean certain patents (“Cerulean Assigned Patents”) directed toward linear cyclodextrin polymers conjugated to drugs. Additionally, Calando granted Cerulean an exclusive license under its rights to the Linear Cyclodextrin System to develop and commercialize CRLX-101 and Cerulean Products. Calando retained rights to use the Linear Cyclodextrin System to develop drugs in which a therapeutic agent is (i) a nucleic acid (e.g., siRNA), (ii) a second generation epothilone, (iii) tubulysin or (iv) cytolysin (collectively, the “Calando Products”).

The issued patents include approximately 55 patents directed to the RONDEL and CYLCOSERT drug delivery platforms. Included in these 55 patents are approximately 34 patents covering linear cyclodextrin copolymers utilized in RONDEL and CYCLOSERT, issued in the United States, Europe (Austria, Belgium, Switzerland, Germany, Denmark, Spain, Finland, France, the United Kingdom, Greece, Ireland, Israel, Italy, Luxembourg, Monaco, Netherlands, Portugal, Sweden), Australia, Brazil, Canada, China, Cyprus, Japan, Republic of Korea, Mexico, Russian Federation, Singapore and South Africa. Approximately 14 patents are directed to inclusion complexes and drug-cyclodextrin complexes utilized in the RONDEL and CYLCOSERT platforms. These patents have issued in the United States, Australia, China, Israel, Japan, Republic of Korea, Russian Federation, Singapore, Taiwan and South Africa. Approximately seven additional patents issued in the United States and Europe (Austria, Switzerland, Germany, France and the United Kingdom) are directed to supramolecular complexes containing therapeutic agents.

Calando also owns a U.S. issued patent (in addition to 14 patents in Europe, i.e., Austria, Belgium, Switzerland, Germany, Denmark, Spain, Finland, France, the United Kingdom, Hungary, Italy, Netherlands, Poland and Sweden) directed to the siRNAs targeting the gene targeted by the active ingredient in CALAA-01, as well as a U.S. patent directed to the siRNA active ingredient of CALAA-02.

HOMING PEPTIDES

We also control 18 patents related to our Homing Peptide platform, related to Adipotide, our drug candidate for the treatment for obesity and related metabolic disorders. Approximately five of these patents are United States patents and the remaining patents are validated in Belgium, Switzerland, Germany, Spain, France, the United Kingdom, Ireland, Greece, Italy, Netherlands, Portugal, Sweden and Turkey.

DPC'S

In addition, we control eleven patents related to our Dynamic Polyconjugate drug delivery platform. These patents have issued in the United States, Australia, Canada, India, Mexico, Russia and South Africa. We also control approximately 41 patents directed to hydrodynamic nucleic acid delivery which issued in the United States, Australia and Europe (Austria, Belgium, Switzerland, Germany, Denmark, Spain, Finland, France, the United Kingdom, Hungary, Ireland, Italy, Netherlands and Sweden).

Thirteen additional patents are directed to various precursors to our DPC delivery platform, and other membrane active polymers, as well as additional drug and gene delivery methodologies and carriers (e.g., lipid- and micelle-based systems).

The approximate year of expiration for each of these various groups of patents are set forth below:

Patent Group	Estimated Year of Expiration
RONDEL™ and CYCLOSERT™	
Linear cyclodextrin copolymers	2018
Inclusion complexes	2021
Drug-cyclodextrin complexes	2024
Supramolecular complexes containing therapeutic agents	2019
CALAA-01	
Patent directed to RRM2 siRNAs	2028
CALAA-02	
Patent directed to HIF-2 alpha (EPAS1) siRNAs	2030
Adipotide ®	
Targeting moieties and conjugates	2021
Targeted Pharmaceutical Compositions	2021
Dynamic Polyconjugates ® (DPC ®)	
Membrane Active Polymers	2027
Membrane Active Polymers—Additional Iterations	2024
Copolymer Systems	2024
Polynucleotide-Polymer Composition	2024
Polynucleotide-Polymer Composition—Additional Iterations	2031
Polyampholyte Delivery	2017
pH Labile Molecules	2020
Endosomolytic Polymers	2020
Hydrodynamic delivery	
Various iterations	2015
Homing Peptides	
EphA5 Targeting Peptides	2027
IL-11R Targeting Peptides	2022

Calando has licensed patents from Alnylam relevant to siRNA therapeutics for both CALAA-01 and CALAA-02. Calando has out-licensed to Tube Pharmaceuticals GmbH, the use of the linear cyclodextrin system for delivering second generation synthetic epothilone drugs. Calando has also out-licensed to Tube Pharmaceuticals GmbH, the use of the linear cyclodextrin system for delivering tubulysin and cytolysin.

The RNAi and nanoparticle drug delivery patent landscapes are complex and rapidly evolving. As such, we may need to obtain additional patent licenses prior to commercialization of our candidates. You should review the factors identified in "Risk Factors" in Part I, Item 1A of this Annual Report on Form 10-K.

License Agreements

Cerulean License

The linear cyclodextrin-based drug delivery platform, Cyclosert, was designed for the delivery of small molecule drugs. Cyclosert provides many of the same benefits as the RONDEL system. In December 2008, we completed a Phase 1 trial with IT-101, a conjugate of Calando's linear cyclodextrin polymer and Camptothecin, a potent anti-cancer drug, with a positive safety profile and indications of efficacy.

On June 23, 2009, we entered into a transaction with Cerulean related to Cyclosert and IT-101 (the "Cerulean Transaction"). In the Cerulean Transaction, we granted Cerulean an irrevocable, perpetual, royalty bearing worldwide license with the right to sublicense, under certain patent rights and know-how in the field of human diseases solely in order to: (a) conduct research and development on the Linear Cyclodextrin System, including making improvements thereto, in order to research and commercialize our clinical asset IT-101 (now known as "CRLX-101"), as well as certain other products in which no therapeutic agent is specifically defined (the "Cerulean Products"); (b) research, develop, make, have made, use, market, offer to sell, distribute, sell and import CRLX-101 and Cerulean Products; and (c) use, copy, modify and distribute certain know-how for those purposes. We retained all rights with respect to products in which a therapeutic agent is a (i) tubulysin, (ii) cytolysin, (iii) second generation epothilone or (iv) nucleic acid (hereinafter "Calando Products").

The Cerulean Transaction also involved the sale and assignment by us of certain patents directed to Cyclosert and CRLX-101 (the "Cerulean Assigned Patents") to Cerulean. Cerulean then granted back to us an exclusive, irrevocable, perpetual, royalty free, worldwide license, with the right to grant sublicenses, under the Cerulean Assigned Patents solely to the extent necessary to research and commercialize products in which each therapeutic agent is a cytolysin, tubulysin, second generation epothilone or any nucleic acid. As such, we retain the rights to the RONDEL siRNA delivery platform, as well as the siRNA-based products, CALAA-01 and CALAA-02.

The Cerulean Transaction resulted in an initial payment to Calando of $2.4 million. Cerulean is obligated to pay development milestone payments of up to $2.75 million if CRLX-101 progresses through clinical trials and receives marketing approval. If approved, we are also entitled to receive up to an additional $30 million in sales milestone payments, plus single digit royalties on net sales. Should Cerulean sublicense CRLX-101 to a third party, we shall receive a percentage of any sublicensing income at rates between 10% and 40%, depending on the stage of the drug's development at the time of sublicensing.

Cerulean is obligated to further pay development milestone payments of up to $3 million for each Cerulean Product that progresses through clinical trials and receives marketing approval. If Cerulean Products are approved, we are entitled to receive up to an additional $15 million in sales milestone payments, plus single digit royalties on net sales. Should Cerulean sublicense a Cerulean Product to a third party, we shall receive a percentage of any sublicensing income at a rate in the tens.

The terms of the agreements of the Cerulean Transactions are tied to the expiration of certain controlled patent rights and Cerulean Assigned Patents. Cerulean may terminate the agreements on thirty (30) days' notice and unless there is a drug safety concern, would be obligated to re-assign the CRLX-101 IND back to us and provide us with an exclusive license thereto under the Cerulean Assigned Patents. We are responsible for the costs associated with prosecution of the patents we control and have licensed to Cerulean.

University of Texas MD Anderson Cancer Center License

In December 2010, we obtained an exclusive world-wide license from at the University of Texas MD Anderson Cancer Center in Houston, Texas ("UTMDACC") related to Adipotide technology (the "UTMDACC License"). The UTMDACC License granted us a royalty-bearing, exclusive right (with the right to sublicense) under certain UTMDACC patents to develop and commercialize certain products in the fields of: 1) therapeutics, diagnostics and research services that both (i) incorporate peptides that specifically target adipose tissue, and (ii) are used to treat, diagnose or research solely either (a) obesity, overweight and/or (b) metabolic conditions related to, caused by and/or associated with obesity and overweight, e.g., diabetes; and 2) cancer therapies, diagnostics and research products associated with a specific targeting moiety. We also have rights to certain improvements to the UTMDACC technology arising in the lab of Drs. Wadih Arap and Renata Pasqualini ("UTMDACC Improvements").

In consideration for the license, we paid UTMDACC an upfront fee of $2 million and are obligated to pay annual fees initially equal to $50,000 increasing up to a maximum of $100,000, with such annual fees creditable against milestone payments.

We may be obligated to pay development milestone payments of up to $8.3 million for each UTMDCC licensed product that progresses through clinical trials and receives U.S. marketing approval are required. Additional EU and Japanese approval milestone payments are in the low single digit million dollar range. If a commercial drug is developed and approved, royalty payments on net sales of UTMDACC licensed products are in the low single digit range. Should we sublicense or partner a UTMDACC licensed product, UTMDACC would receive partnering fee percentages in the range of single digits to the twenties, depending on the stage of development of the partnered UTMDACC licensed product.

The term of the UTMDACC License is linked to the last to expire patents licensed therein or 15 years if a licensed product contains only licensed know-how. We are obligated to actively and effectively attempt to commercialize the UTMDACC Technology and submit to UTMDACC a Phase 2 clinical trial protocol within two years of obtaining an approved IND. We are also obligated to commence a Phase 2 clinical trial within four years and a Phase 3 clinical trial within seven years of approval of an IND. However, we may obtain yearly extensions of time upon the payment of an increasing fee in the range of tens of thousands of dollars up to several hundred thousand dollars. We also have diligence obligations with respect to any UTMDACC Improvements later added to the license. The UTMDACC license shall automatically terminate if we file for bankruptcy or are unable to pay our bills as they come due.

Research and Development Facility

Arrowhead operates a research and development facility in Madison, Wisconsin. This facility was built and equipped by Roche and was part of our acquisition of their RNA therapeutics business. We have integrated development operations into that facility, including work on our platforms RONDEL, DPCs, Homing Peptides, and our clinical candidates CALAA-01, Adipotide, and ARC-520. A summary of the facility is provided below:

- Approximately 40 scientists;
- State-of-the-art laboratories: 24,000 total sq. ft. of lab space;
- Complete small animal facility with capacity for 10,000 rodents in 2012;
- Primate colony housed at University of Wisconsin;
- In-house histopathology capabilities;
- Animals models for metabolic, viral, and oncologic diseases;
- Animal efficacy and safety assessment;
- Peptide synthesis and analytics capabilities;
- Polymer and small molecule synthesis and analytics capabilities (NMR, mass spec, etc.);
- Polymer and siRNA PK, biodistribution, clearance methodologies; and
- Confocal microscopy, flow cytometry, Luminex platform, clinical chemistry analytics.

Research and Development Expenses

Research and development expenses consist of costs incurred in identifying, developing and testing our product programs. These expenses consist primarily of salaries and related expenses for personnel, license fees, consulting fees, contract research and manufacturing, and the costs of laboratory equipment and facilities. Research and development expense for 2012 was $8.7 million an increase from $3.5 million in 2011, primarily due to expenses related to the acquisition of the Madison facility.

Government Regulation

Governmental authorities in the U.S. and other countries extensively regulate the research, development, testing, manufacture, labeling, promotion, advertising, distribution and marketing, among other things, of drugs and biologic products. All of our foreseeable product candidates are expected to be regulated as drug products.

In the U.S., the FDA regulates drug products under the Federal Food, Drug and Cosmetic Act (the "FDCA"), and other laws within the Public Health Service Act. Failure to comply with applicable U.S. requirements, both before and after approval, may lead to administrative and judicial sanctions, such as a delay in approving or refusal by the FDA to approve pending applications, warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, and/or criminal prosecutions. Before drug products are marketed they must be approved by the FDA. The steps required before a novel drug product is approved by the FDA include: (1) pre-clinical laboratory, animal, and formulation tests; (2) submission to the FDA of an Investigational New Drug Application ("IND") for human clinical testing, which must become effective before human clinical trials may begin; (3) adequate and well-controlled clinical trials to establish the safety and effectiveness of the product for each indication for which approval is sought; (4) submission to the FDA of a New Drug Application ("NDA"); (5) satisfactory completion of a FDA inspection of the manufacturing facility or facilities at which the drug product is produced to assess compliance with cGMP; and FDA review and finally (6) approval of an NDA.

Pre-clinical tests include laboratory evaluations of product chemistry, toxicity and formulation, as well as animal studies. The results of the pre-clinical tests, together with manufacturing information and analytical data, are submitted to the FDA as part of an IND, which must become effective before human clinical trials may begin. An IND will automatically become effective 30 days after receipt by the FDA, unless before that time the FDA raises concerns or questions, such as the conduct of the trials as outlined in the IND. In such a case, the IND sponsor and the FDA must resolve any outstanding FDA concerns or questions before clinical trials can proceed. There can be no assurance that submission of an IND will result in FDA authorization to commence clinical trials. Once an IND is in effect, each clinical trial to be conducted under the IND must be submitted to the FDA, which may or may not allow the trial to proceed.

Clinical trials involve the administration of the investigational drug to human subjects under the supervision of qualified physician-investigators and healthcare personnel. Clinical trials are typically conducted in three defined phases, but the phases may overlap or be combined. Phase 1 usually involves the initial administration of the investigational drug or biologic product to healthy individuals to evaluate its safety, dosage tolerance and pharmacodynamics. Phase 2 usually involves trials in a limited patient population, with the disease or condition for which the test material is being developed, to evaluate dosage tolerance and appropriate dosage; identify possible adverse side effects and safety risks; and preliminarily evaluate the effectiveness of the drug or biologic for specific indications. Phase 3 trials usually further evaluate effectiveness and test further for safety by administering the drug or biologic candidate in its final form in an expanded patient population. Our product development partners, the FDA, or we may suspend clinical trials at any time on various grounds, including any situation where we believe that patients are being exposed to an unacceptable health risk or are obtaining no medical benefit from the test material.

Assuming successful completion of the required clinical testing, the results of the pre-clinical trials and the clinical trials, together with other detailed information, including information on the manufacture and composition of the product, are submitted to the FDA in the form of an NDA requesting approval to market the product for one or more indications. Before approving an application, the FDA will usually inspect the facilities where the product is manufactured, and will not approve the product unless cGMP compliance is satisfactory. If the FDA determines the NDA is not acceptable, the FDA may outline the deficiencies in the NDA and often will request additional information. If the FDA approves the NDA, certain changes to the approved product, such as adding new indications, manufacturing changes or additional labeling claims are subject to further FDA review and approval. The testing and approval process requires substantial time, effort and financial resources, and approval on a timely basis, if at all, cannot be guaranteed.

Under the Orphan Drug Act, the FDA may grant orphan drug designation to a drug intended to treat a rare disease or condition, which is generally a disease or condition that affects fewer than 200,000 individuals in the United States, or more than 200,000 individuals in the U.S. and for which there is no reasonable expectation that the cost of developing and making available in the U.S. a drug for this type of disease or condition will be recovered from sales in the U.S. for that drug. Orphan drug designation must be requested before submitting an NDA. After the FDA grants orphan drug designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. If a product that has orphan drug designation subsequently receives the first FDA approval for the disease for which it has such designation, the product is entitled to orphan product exclusivity, which means that the FDA may not approve any other application to market the same drug for the same indication, except in very limited circumstances, for seven years.

In addition, regardless of the type of approval, we and our partners are required to comply with a number of FDA requirements both before and after approval. For example, drug makers are required to report certain adverse reactions and production problems, if any, to the FDA, and to comply with certain requirements concerning advertising and promotion for our products. In addition, quality control and manufacturing procedures must continue to conform to cGMP after approval, and the FDA periodically inspects manufacturing facilities to assess compliance with cGMP. Accordingly, manufacturers must continue to expend time, money and effort in all areas of regulatory compliance, including production and quality control to comply with cGMP. In addition, discovery of problems, such as safety problems, may result in changes in labeling or restrictions on a product manufacturer or NDA holder, including removal of the product from the market.

Corporate Information

Unless otherwise noted, (1) the term "Arrowhead" refers to Arrowhead Research Corporation, a Delaware corporation, (2) the terms the "Company," "we," "us," and "our," refer to the ongoing business operations of Arrowhead and its Subsidiaries, whether conducted through Arrowhead or a subsidiary of Arrowhead, (3) the term "Subsidiaries" refers collectively to Arrowhead Madison Inc. ("Madison", formerly known as Roche Madison, Inc.), Alvos Therapeutics, Inc. ("Alvos"), Calando Pharmaceuticals, Inc. ("Calando"), Ablaris Therapeutics, Inc. ("Ablaris"), Agonn Systems, Inc. ("Agonn",) and Tego Biosciences Corporation ("Tego") as well as our former subsidiary, Unidym, Inc. ("Unidym"), which was divested in January 2011, (4) the term "Minority Investments" refers collectively to Nanotope, Inc. ("Nanotope") and Leonardo Biosystems, Inc. ("Leonardo") in which the company holds a less than majority ownership position, and (5) the term "Common Stock" refers to Arrowhead's Common Stock and the term "stockholder(s)" refers to the holders of Arrowhead Common Stock.

Arrowhead was originally incorporated in South Dakota in 1989, and was reincorporated in Delaware in 2000. The Company's principal executive offices are located at 225 South Lake Avenue, Suite 1050, Pasadena, California 91101, and its telephone number is (626) 304-3400. We operate a 24,000 square foot research and development facility in Madison, Wisconsin. As of September 30, 2012, Arrowhead had 52 full-time employees.

Other Business Interests

Leonardo Biosystems, Inc.

Leonardo is a drug delivery company that employs a novel multi-stage drug delivery mechanism aimed at dramatically increasing targeting efficiency of pharmaceuticals. Arrowhead has an approximately 3% ownership interest in Leonardo. Leonardo's silicon micro-particulate technology involves transporting a therapeutic agent past multiple biological barriers using multiple carriers, each optimized for a specific barrier. Leonardo's proprietary primary vehicles are designed to preferentially accumulate at tumor vasculature. Secondary carriers are then released from the primary carriers that are designed to accumulate around tumor cells and release their therapeutic payloads. Pre-clinical testing in animal disease models suggests that Leonardo's platform enables significantly increased targeting of tumors and also provides sustained release of cancer therapies. Further development of Leonardo's technology is dependent on cash resources available to Leonardo.

Nanotope, Inc.

Nanotope is a regenerative medicine company with license to a suite of nanotechnology-based products customized to regenerate specific tissues: including neuronal, bone and cartilaginous tissues. During 2012, Nanotope closed its R&D facility and ceased internal development of its technology. Development is continuing at Northwestern University in the lab of Sam Stupp, Nanotope's scientific founder. Arrowhead has an approximately 23% ownership interest in Nanotope.

Unidym, Inc.

In January 2011, Arrowhead sold Unidym, Inc. to Wisepower Co., Ltd., a publicly-traded, Seoul, Korea-based electronics company (KOSDAQ: 040670). Unidym was a majority-owned subsidiary that developed nanotechnology-enabled materials to be used in the manufacturing of certain electronics components. Upfront consideration consisted of stock and convertible bonds valued at $5,000,000 with certain restrictions as to timing of stock sales. Additional cash earn-out payments of up to US $140 million are possible based on cumulative sales and licensing milestones, and up to 40% of licensing revenue.

ITEM 1A. RISK FACTORS

You should carefully consider the risks discussed below and all of the other information contained in this report in evaluating us and an investment in our securities. If any of the following risks and uncertainties should occur, they could have a material adverse effect on our business, financial condition or results of operations. In that case, the trading price of our Common Stock could decline. Additionally, we note that we are a development stage company and we have accrued net losses annually since inception. We urge you to consider our likelihood of success and prospects in light of the risks, expenses and difficulties frequently encountered by entities at similar stages of development.

Risks Related to Our Financial Condition

Our independent auditors have issued a report questioning our ability to continue as a going concern.

The report of our independent auditors contained in our financial statements explains that we have not yet established an ongoing source of revenue sufficient to cover operating costs and allow us to continue as a going concern. Our ability to continue as a going concern is dependent on obtaining adequate capital to fund operating losses until we become profitable. If we are unable to obtain adequate capital, we may have to delay, scale back, or discontinue the development and/or commercialization of one or more product candidates, or relinquish or otherwise dispose of rights to technologies, product candidates, or products that we would otherwise seek to develop or commercialize ourselves and/or cease operations.

We have a history of net losses, and we expect to continue to incur net losses and may not achieve or maintain profitability.

We have incurred net losses since our inception, including net losses of $22.1 million for the year ended September 30, 2012 and a cumulative net loss since inception of approximately $153.7 million. We expect that our operating losses will continue as we fund our drug development and discovery efforts. To achieve profitability, we must, either directly or through licensing and/or partnering relationships, successfully develop and obtain regulatory approval for a drug candidate and effectively manufacture, market and sell any drugs we successfully develop. Even if we successfully commercialize drug candidates that receive regulatory approval, we may not be able to realize revenues at a level that would allow us to achieve or sustain profitability. Accordingly, we may never generate significant revenue and, even if we do generate significant revenue, we may never achieve profitability.

We have limited cash resources.

Our business currently does not generate the cash that is necessary to finance our operations. We incurred net losses of approximately $22.1 million in 2012 and $153.7 million since our inception. Subject to the success of the research and development programs of our company and our partners, and potential licensing or partnering transactions, we will need to raise significant additional capital in the immediate future to:

- Fund research and development activities relating to our development of our product candidates, including clinical and pre-clinical trials;
- Fund our general and administrative activities;
- Pursue licensing opportunities for our technologies;
- Protect our intellectual property; and
- Retain our management and technical staff.

Our future capital needs depend on many factors, including:

- The scope, duration and expenditures associated with our research and development;
- Continued scientific progress in these programs;
- The outcome of potential partnering or licensing transactions, if any;
- Competing technological developments;
- Our proprietary patent position, if any, in our products; and
- The regulatory approval process for our products.

We will need to raise substantial additional funds through public or private equity offerings, debt financings or additional strategic alliances and licensing arrangements in the immediate future to continue our operations. We may not be able to obtain additional financing on terms favorable to us, if at all. General market conditions, as well as market conditions for companies that are facing financial distress, may make it very difficult for us to seek financing from the capital markets, and the terms of any financing may adversely affect the holdings or the rights of our stockholders. For example, if we raise additional funds by issuing equity securities, further dilution to our stockholders will result, which may substantially dilute the value of your investment. In addition, as a condition to providing additional funds to us, future investors may demand, and may be granted, rights superior to those of existing stockholders. Debt financing, if available, may involve restrictive covenants that could limit our flexibility in conducting future business activities and, in the event of insolvency, would be paid before holders of equity securities received any distribution of corporate assets. We may be required to relinquish rights to our technologies or drug candidates, or grant licenses on terms that are not favorable to us, in order to raise additional funds through alliance, joint venture or licensing arrangements. If adequate funds are not available, we may have to further delay, reduce or eliminate one or more of our planned activities. These actions would likely reduce the market price of our common stock.

The current financial market conditions may exacerbate certain risks affecting our business.

We do not yet generate substantial revenue, and our operations and research and development activities have been primarily funded to date through the sale of Company securities and securities of our Subsidiaries. The global financial markets are volatile and those market conditions may impair our ability to raise the capital we require. If we are unable to secure additional cash resources from the sale of securities or other sources, it could become necessary to slow or suspend development efforts. In addition, we may have to reduce expenses, which could impair our ability to manage our business. Even if investment capital is available to us, the terms may be onerous.

Because we have not generated significant revenues to cover our operating expenses, we are dependent on raising additional capital from investors or lenders.

To date, we have only generated a small amount of revenue. Given our strategy of financing new and unproven technology research, there can be no assurance we will ever generate significant revenue. Our revenue-producing opportunities depend on our ability to attract collaborations or out-licenses with other companies, receive milestone and royalty payments from prior divestitures, and/or generate income from the sales of products. These sources of revenue are uncertain as to the amount and timing of potential revenue. Accordingly, our revenue prospects are uncertain and we must plan to finance our operations through the sales of equity securities or debt financing. If we are unable to continue raising operating capital from these sources, we may be forced to curtail or cease our operations.

We will need to achieve commercial acceptance of our applications to generate revenues and achieve profitability.

Even if our research and development efforts yield technologically feasible applications, we may not successfully develop commercial products which would take years to study in human clinical trials prior to regulatory approval, and, even if successfully developed, we may not do so on a timely basis. During this development period, superior competitive technologies may be introduced which could diminish or extinguish the potential commercial uses for our drug candidates. Additionally, the degree to which patients and consumers will adopt any product we develop is uncertain. We cannot predict whether significant commercial market acceptance for our products, if approved, will ever develop, and we cannot reliably estimate the projected size of any such potential market. Our revenue growth and achievement of profitability will depend substantially on our ability to introduce new technological applications to manufacturers for products accepted by customers. If we are unable to cost-effectively achieve acceptance of our technology among the medical establishment and patients, or if the associated products do not achieve wide market acceptance, our business will be materially and adversely affected.

We have debt on our consolidated balance sheet through our subsidiary, Calando, which could have negative consequences if we were unable to repay the principal or interest due.

Calando has a $500,000 unsecured convertible promissory note outstanding. The note bears 10% interest accrued annually, and matures in November 2013. The note is payable at two times face value at maturity and upon the occurrence of certain events, including, the license of Calando's siRNA delivery system. If Calando is unable to meet its obligations to the bearer of the note, Arrowhead may not be in a position to lend Calando sufficient cash to pay such demand note. Unless other sources of financing become available, this could result in Calando's insolvency.

Our Subsidiaries are party to technology license agreements with third parties that require us to satisfy obligations to keep them effective and, if these agreements are terminated, our technology and our business would be seriously and adversely affected.

Through our Subsidiaries, we are party into exclusive, long-term license agreements with University of Texas MD Anderson Cancer Center, California Institute of Technology, Alnylam Pharmaceuticals, Inc. and other entities to incorporate their proprietary technologies into our proposed products. These license agreements require us to pay royalties and satisfy other conditions, including conditions in some cases related to the commercialization of the licensed technology. We may not be able to successfully incorporate these technologies into marketable products or, if we do, whether sales will be sufficient to recover the amounts that we are obligated to pay to the licensors. If we fail to satisfy our obligations under these agreements the terms of the licenses may be materially modified, such as by rendering the licenses non-exclusive, or may give our licensors the right to terminate their respective agreement with us, which would limit our ability to implement our current business plan and harm our business and financial condition.

Risks Related to Our Company

Drug development is time consuming, expensive and risky.

We are focused on technology related to new and improved pharmaceutical candidates. Product candidates that appear promising in the early phases of development, such as in animal and early human clinical trials, often fail to reach the market for a number of reasons, such as:

- Clinical trial results may be unacceptable, even though preclinical trial results were promising;
- Inefficacy and/or harmful side effects in humans or animals;
- The necessary regulatory bodies, such as the U.S. Food and Drug Administration, may not approve our potential product for the intended use; and
- Manufacturing and distribution may be uneconomical.

For example, the positive pre-clinical results for Adipotide in animals may not be replicated in human clinical studies or it may be found to be unsafe in humans. Additionally, clinical trial results are frequently susceptible to varying interpretations by scientists, medical personnel, regulatory personnel, statisticians and others, which often delays, limits, or prevents further clinical development or regulatory approvals of potential products. Clinical trials can take many years to complete, including the process of study design, clinical site selection and the enrollment of patients. As a result, we can experience significant delays in completing clinical studies, which can increase the cost of developing a drug candidate. If our drug candidates are not successful in human clinical trials, we may be forced to curtail or abandon certain development programs. If we experience significant delays in commencing or completing our clinical studies, we could suffer from significant cost overruns, which could negatively affect our capital resources and our ability to complete these studies.

We may be unable to attract revenue-generating collaborations with other pharmaceutical and biotech companies to advance our drug candidates.

Our business strategy includes obtaining collaborations with other pharmaceutical and biotech companies to support the development of our therapeutic siRNA and other drug candidates. We may not be able to attract such partners, and even if we are able to enter into such partnerships, the terms may be less favorable than anticipated. Further, entering into partnership agreements may limit our commercialization options and/or require us to share revenues and profits with our partners.

Our products are in the early stages of our development and because we have a short development history with both DPCs and Homing Peptides, there is a limited amount of information about us upon which you can evaluate our business and prospects.

We have not begun to market or generate revenues from the commercialization of any products. We have only a limited history upon which one can evaluate our targeted therapeutic business and prospects as our therapeutic products are still at an early stage of development. Thus, we have limited experience and have not yet demonstrated an ability to successfully overcome many of the risks and uncertainties frequently encountered by companies in new and rapidly evolving fields, particularly in the biopharmaceutical area. For example, to execute our business plan, we will need to successfully:

- Execute product development activities using an unproven technology;
- Build, maintain and protect a strong intellectual property portfolio;
- Gain acceptance for the development and commercialization of any product we develop;
- Develop and maintain successful strategic relationships; and
- Manage our spending and cash requirements as our expenses are expected to increase in the near term due to preclinical and clinical trials.

If we are unsuccessful in accomplishing these objectives, we may not be able to develop products, raise capital, expand our business or continue our operations.

We may lose a considerable amount of control over our intellectual property and may not receive anticipated revenues in strategic transactions, particularly where the consideration is contingent on the achievement of development or sales milestones.

Our business model has been to develop new technologies and to exploit the intellectual property created through the research and development process to develop commercially successful products. Calando has licensed a portion of its technology to Cerulean Pharma, Inc. and we intend to pursue licensing arrangements with other companies. A significant portion of the potential value from these licenses is tied to the achievement of the development and sales milestones, which we cannot control. Similarly, the majority of the consideration, up to $140 million, potentially payable by Wisepower in connection with our sale of Unidym is tied to the achievement of commercialization milestones, which we cannot control. Although Wisepower and Cerulean are required to use certain minimum efforts to achieve the post-closing milestones, we cannot control whether they actually achieve these milestones. If the acquirers fail to achieve performance milestones, we may not receive a significant portion of the total value of any sale, license or other strategic transaction.

There are substantial risks inherent in attempting to commercialize new technological applications, and, as a result, we may not be able to successfully develop products for commercial use.

Our research and development efforts involve therapeutics based on nanotechnology and RNA interference, which are largely unproven technologies. Our scientists and engineers are working on developing technology in various stages. However, such technology's commercial feasibility and acceptance are unknown. Scientific research and development requires significant amounts of capital and takes a long time to reach commercial viability, if at all. To date, our research and development projects have not produced commercially viable applications, and may never do so. During the research and development process, we may experience technological barriers that we may be unable to overcome. Because of these uncertainties, it is possible that none of our potential applications will be successfully developed. If we are unable to successfully develop applications of our technology for commercial use, we will be unable to generate revenue or build a sustainable or profitable business.

We will need to establish additional relationships with strategic and development partners to fully develop and market our products.

We do not possess all of the financial and development resources necessary to develop and commercialize products that may result from our technologies on a mass scale. Unless we expand our product development capacity and enhance our internal marketing capability, we will need to make appropriate arrangements with strategic partners to develop and commercialize current and future products. If we do not find appropriate partners, or if our existing arrangements or future agreements are not successful, our ability to develop and commercialize products could be adversely affected. Even if we are able to find collaborative partners, the overall success of the development and commercialization of product candidates in those programs will depend largely on the efforts of other parties and is beyond our control. In addition, in the event we pursue our commercialization strategy through collaboration, there are a variety of technical, business and legal risks, including:

- A development partner would likely gain access to our proprietary information, potentially enabling the partner to develop products without us or design around our intellectual property;

- We may not be able to control the amount and timing of resources that our collaborators may be willing or able to devote to the development or commercialization of our product candidates or to their marketing and distribution; and
- Disputes may arise between us and our collaborators that result in the delay or termination of the research, development or commercialization of our product candidates or that result in costly litigation or arbitration that diverts our management's resources.

The occurrence of any of the above events or other related events not foreseen by us could impair our ability to generate revenues and harm our business and financial condition.

We may not be able to effectively secure first-tier technologies when competing against other investors.

Our success may require that we acquire new or complimentary technologies. However, we compete with a substantial number of other companies that may also compete for technologies we desire. In addition, many venture capital firms and other institutional investors, as well as other pharmaceutical and biotech companies, invest in companies seeking to commercialize various types of emerging technologies. Many of these companies have greater financial, scientific and commercial resources than us. Therefore, we may not be able to secure the technologies we desire. Furthermore, should any commercial undertaking by us prove to be successful, there can be no assurance competitors with greater financial resources will not offer competitive products and/or technologies.

We rely on outside sources for various components and processes for our products.

We rely on third parties for various components and processes for our products. While we try to have at least two sources for each component and process, we may not be able to achieve multiple sourcing because there may be no acceptable second source, other companies may choose not to work with us, or the component or process sought may be so new that a second source does not exist, or does not exist on acceptable terms. There may be a disruption or delay in the performance of our third-party contractors, suppliers or collaborators which is beyond our control. If such third parties are unable to satisfy their commitments to us, our business would be adversely affected. Therefore, it is possible that our business plans will have to be slowed down or stopped completely at times due to our inability to obtain required raw materials, components and outsourced processes at an acceptable cost, if at all, or to get a timely response from vendors.

We must overcome the many obstacles associated with integrating and operating varying development programs.

Our model to integrate and oversee research and development projects presents many risks, including:

- The difficulty of integrating operations and personnel; and
- The diversion of our management's attention as a result of evaluating, negotiating and integrating acquisitions or new business ventures.

If we are unable to timely and efficiently design and integrate administrative and operational support for our Subsidiaries, we may be unable to manage projects effectively, which could adversely affect our ability to meet our business objectives and the value of an investment in the Company could decline.

In addition, consummating acquisitions and strategic relationships could adversely impact our cash position, and dilute stockholder interests, for many reasons, including:

- Collaboration terms that decrease future cash flows from products in exchange for near term benefits;
- Changes to our income to reflect the amortization of acquired intangible assets, including goodwill;
- Interest costs and debt service requirements for any debt incurred to fund our growth strategy; and
- Any issuance of securities to fund our operations or growth, which dilutes or lessens the rights of current stockholders.

Our success depends on the attraction and retention of senior management and scientists with relevant expertise.

Our future success depends to a significant extent on the continued services of our key employees, including Dr. Anzalone, our President and Chief Executive Officer, Dr. Bruce Given, our Chief Operating Officer, and Ken Myszkowski, our Chief Financial Officer. We do not maintain key man life insurance for any of our executives. Our ability to execute our strategy also will depend on our ability to continue to attract and retain qualified scientists and management. If we are unable to find, hire and retain qualified individuals, we could have difficulty implementing our business plan in a timely manner, or at all.

Members of our senior management team and Board may have a conflict of interest in also serving as officers and/or directors of our Subsidiaries.

While we expect that our officers and directors who also serve as officers and/or directors of our Subsidiaries will comply with their fiduciary duties owed to our stockholders, they may have conflicting fiduciary obligations to our stockholders and the minority stockholders of our Subsidiaries. Specifically, Dr. Anzalone, our President and CEO, is the founder, CEO and a board member of Nanotope, a regenerative medicine company in which the Company owns a 23% interest. Further, Dr. Anzalone as well as Dr. Mauro Ferrari, an Arrowhead board member, are board members of Leonardo, a drug delivery company in which Arrowhead owns a 3% interest. Dr. Anzalone owns a noncontrolling interest in the stock of Nanotope. Drs. Anzalone and Ferrari own a noncontrolling interest in Leonardo. Douglass Given, a member of our board of directors, is the brother of Bruce Given. To the extent that any of our directors choose to recuse themselves from particular Board actions to avoid a conflict of interest, the other members of our Board of Directors will have a greater influence on such decisions.

We face uncertainty related to healthcare reform, pricing and reimbursement, which could reduce our revenue.

In the United States, President Obama signed in March 2010 the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act (collectively, "PPACA"), which is expected to substantially change the way health care is financed by both governmental and private payers. PPACA provides for changes to extend medical benefits to those who currently lack insurance coverage, encourages improvements in the quality of health care items and services, and significantly impacts the U.S. pharmaceutical industry in a number of ways, further listed below. By extending coverage to a larger population, PPACA may substantially change the structure of the health insurance system and the methodology for reimbursing medical services, drugs and devices. These structural changes, as well as other changes that may be made as part of deficit and debt reduction efforts in Congress, could entail modifications to the existing system of private payers and government programs, such as Medicare, Medicaid and State Children's Health Insurance Program, as well as the creation of a government-sponsored healthcare insurance source, or some combination of both. Such restructuring of the coverage of medical care in the United States could impact the extent of reimbursement for prescribed drugs, including our product candidates, biopharmaceuticals, and medical devices. Some of the specific PPACA provisions, among other things:

- Establish annual, non-deductible fees on any entity that manufactures or imports certain branded prescription drugs and biologics, beginning in 2011;
- Increase minimum Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program;
- Extend manufacturers' Medicaid rebate liability to covered drugs dispensed to individuals who are enrolled in Medicaid managed care organizations;
- Establish a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in and conduct comparative clinical effectiveness research;
- Require manufacturers to participate in a coverage gap discount program, under which they must agree to offer 50 percent point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D, beginning in 2011; and
- Increase the number of entities eligible for discounts under the Public Health Service pharmaceutical pricing program, effective January 2010.

If future reimbursement for approved product candidates, if any, is substantially less than we project, or rebate obligations associated with them are substantially increased, our business could be materially and adversely impacted.

Sales of any approved drug candidate will depend in part on the availability of coverage and reimbursement from third-party payers such as government insurance programs, including Medicare and Medicaid, private health insurers, health maintenance organizations and other health care related organizations. Accordingly, coverage and reimbursement may be uncertain. Adoption of any drug candidate by the medical community may be limited if third-party payers will not offer coverage. Cost control initiatives may decrease coverage and payment levels for any new drug and, in turn, the price that we will be able to charge. We are unable to predict all changes to the coverage or reimbursement methodologies that will be applied by private or government payers. Any denial of private or government payer coverage or inadequate reimbursement could harm our business and reduce our revenue.

In addition, both the federal and state governments in the United States and foreign governments continue to propose and pass new legislation affecting coverage and reimbursement policies, which are designed to contain or reduce the cost of health care, as well as hold public hearings on these matters, which has resulted in certain private companies dropping the prices of their drugs. Further federal and state proposals and healthcare reforms are likely, which could limit the prices that can be charged for the product candidates that we develop and may further limit our commercial opportunity. There may be future changes that result in reductions in current coverage and reimbursement levels for our product candidates, if approved and commercialized, and we cannot predict the scope of any future changes or the impact that those changes would have on our operations.

There may be a difference in the investment valuations that we used when making initial and subsequent investments in our Subsidiaries and minority investments and actual market values.

Our investments in our Subsidiaries and noncontrolling interests were the result of negotiation with subsidiary management and equity holders, and the investment valuations may not always have been independently verified. Traditional methods used by independent valuation analysts include a discounted cash flow analysis and a comparable company analysis. We have not generated a positive cash flow to date and do not expect to generate significant cash flow in the near future. Additionally, we believe that few comparable public companies exist to provide meaningful valuation comparisons. Accordingly, we have not always sought independent valuation analysis in connection with our investments and may have invested in our various holdings at higher or lower valuations than an independent source would have recommended. There may be no correlation between the investment valuations that we used over the years for our investments and the actual market values. If we should eventually sell all or a part of any of our consolidated business or that of a subsidiary, the ultimate sale price may be for a value substantially different than previously determined by us, which could materially and adversely impair the value of our Common Stock.

Risks Related to Our Intellectual Property

Our ability to protect our patents and other proprietary rights is uncertain, exposing us to the possible loss of competitive advantage.

We have licensed rights to pending patents and have filed and expect to continue to file patent applications. Researchers sponsored by us may also file patent applications that we choose to license. If a particular patent is not granted, the value of the invention described in the patent would be diminished. Further, even if these patents are granted, they may be difficult to enforce. Even if successful, efforts to enforce our patent rights could be expensive, distracting for management, cause our patents to be invalidated, and frustrate commercialization of products. Additionally, even if patents are issued and are enforceable, others may independently develop similar, superior or parallel technologies to any technology developed by us, or our technology may prove to infringe upon patents or rights owned by others. Finally, patent prosecution is expensive, and we may be forced to curtail prosecution if our cash resources are limited. Thus, the patents held by or licensed to us may not afford us any meaningful competitive advantage. If we are unable to derive value from our licensed or owned intellectual property, the value of your investment may decline.

We may be subject to patent infringement claims, which could result in substantial costs and liability and prevent us from commercializing our potential products.

Because the intellectual property landscape in the fields in which we participate is rapidly evolving and interdisciplinary, it is difficult to conclusively assess our freedom to operate without infringing on third party rights. However, we are currently aware of certain patent rights held by third parties that, if found to be valid and enforceable, could be alleged to render one or more of our business lines infringing. If a claim should be brought and is successful, we may be required to pay substantial damages, be forced to abandon any affected business lines and/or seek a license from the patent holder. In addition, any patent infringement claims brought against us, whether or not successful, may cause us to incur significant expenses and divert the attention of our management and key personnel from other business concerns. These could negatively affect our results of operations and prospects. We cannot be certain that patents owned or licensed by us or our Subsidiaries will not be challenged by others.

In addition, if our potential products infringe the intellectual property rights of third parties, these third parties may assert infringement claims against our customers, and we may be required to indemnify our customers for any damages they suffer as a result of these claims. The claims may require us to initiate or defend protracted and costly litigation on behalf of customers, regardless of the merits of these claims. If any of these claims succeed, we may be forced to pay damages on behalf of our customers or may be required to obtain licenses for the products they use. If we cannot obtain all necessary licenses on commercially reasonable terms, we may be unable to continue selling such products.

Our technology licensed from various third parties may be subject to government rights and retained rights of the originating research institutions.

We license technology from the University of Texas MD Anderson Cancer Center, Caltech, and other universities and companies. Our licensors may have obligations to government agencies or universities. Under their agreements, a government agency or university may obtain certain rights over the technology that we have developed and licensed, including the right to require that a compulsory license be granted to one or more third parties selected by the government agency.

In addition, our licensors often retain certain rights under their agreements with us, including the right to use the underlying technology for noncommercial academic and research use, to publish general scientific findings from research related to the technology, and to make customary scientific and scholarly disclosures of information relating to the technology. It is difficult to monitor whether our licensors limit their use of the technology to these uses, and we could incur substantial expenses to enforce our rights to our licensed technology in the event of misuse.

Risks Related to Regulation of Our Products

Our corporate compliance program cannot guarantee that we are in compliance with all applicable federal and state regulations.

Our operations, including our research and development and our commercialization efforts, such as clinical trials, manufacturing and distribution, are subject to extensive federal and state regulation. While we have developed and instituted a corporate compliance program, we cannot be assured that the Company or our employees are, or will be in compliance with all potentially applicable federal and state regulations or laws. If we fail to comply with any of these regulations or laws, a range of actions could result, including, but not limited to, the termination of clinical trials, the failure to approve a commercialized product, significant fines, sanctions, or litigation, any of which could harm our business and financial condition.

Risks Related to our Stock

Stockholder equity interest may be substantially diluted in any additional financing.

Our certificate of incorporation authorizes the issuance of 145,000,000 shares of Common Stock and 5,000,000 shares of Preferred Stock, on such terms and at such prices as our Board of Directors may determine. Adjusted for the 1 for 10 stock split that was implemented on November 17, 2011, as of September 30, 2012, we had 13,579,185 shares of Common Stock issued and outstanding. The issuance of additional securities in financing transactions by us or through the exercise of options or warrants will dilute the equity interests of our existing stockholders, perhaps substantially, and might result in dilution in the tangible net book value of a share of our Common Stock, depending upon the price and other terms on which the additional shares are issued.

Our Common Stock price has fluctuated significantly over the last several years and may continue to do so in the future, without regard to our results of operations and prospects.

Because we are a development stage company, there are few objective metrics by which our progress may be measured. Consequently, we expect that the market price of our Common Stock will likely continue to fluctuate significantly. We may not generate substantial revenue from the license or sale of our technology for several years, if at all. In the absence of product revenue as a measure of our operating performance, we anticipate that investors and market analysts will assess our performance by considering factors such as:

- Announcements of developments related to our business;
- Our ability to enter into or extend investigation phase, development phase, commercialization phase and other agreements with new and/or existing partners;
- Announcements regarding the status of any or all of our collaborations or products;
- Market perception and/or investor sentiment regarding our technology;
- Announcements regarding developments in the RNA interference or biotechnology fields in general;
- Market perception and/or announcements regarding other companies developing products in the field of RNA interference;
- The issuance of competitive patents or disallowance or loss of our patent rights; and
- Variations in our operating results.

We will not have control over many of these factors but expect that they may influence our stock price. As a result, our stock price may be volatile and such volatility could result in the loss of all or part of your investment. Additionally, in the past, when the market price of a stock has been volatile, holders of that stock have often initiated securities class action litigation against the company that issued the stock. If any of our stockholders brought a lawsuit against us, we could incur substantial costs defending the lawsuit. The lawsuit could also divert the time and attention of our management.

The market for purchases and sales of our Common Stock may be very limited, and the sale of a limited number of shares could cause the price to fall sharply.

Although our Common Stock is listed for trading on the NASDAQ Capital Market, historically our securities have been relatively thinly traded. Investor trading patterns could serve to exacerbate the volatility of the price of the stock. For example, mandatory sales of our Common Stock by institutional holders could be triggered if an investment in our Common Stock no longer satisfies their investment standards and guidelines. Accordingly, it may be difficult to sell shares of our Common Stock quickly without significantly depressing the value of the stock. Unless we are successful in developing continued investor interest in our stock, sales of our stock could continue to result in major fluctuations in the price of the stock.

If securities or industry analysts do not publish research reports about our business or if they make adverse recommendations regarding an investment in our stock, our stock price and trading volume may decline.

The trading market for our Common Stock can be influenced by the research and reports that industry or securities analysts publish about our business. We do not currently have and may never obtain research coverage by industry or securities analysts. Investors have many investment opportunities and may limit their investments to companies that receive coverage from analysts. If no industry or securities analysts commence coverage of the Company, the trading price of our stock could be negatively impacted. In the event we obtain industry or security analyst coverage, if one or more of the analysts downgrade our stock or comment negatively on our prospects, our stock price may decline. If one or more of these analysts cease to cover our industry or us or fails to publish reports about the Company regularly, our Common Stock could lose visibility in the financial markets, which could also cause our stock price or trading volume to decline.

The market price of our Common Stock may be adversely affected by the sale of shares by our management or founding stockholders.

Sales of our Common Stock by our officers, directors and founding stockholders could adversely and unpredictably affect the price of those securities. Additionally, the price of our Common Stock could be affected even by the potential for sales by these persons. We cannot predict the effect that any future sales of our Common Stock, or the potential for those sales, will have on our share price. Furthermore, due to relatively low trading volume of our stock, should one or more large stockholders seek to sell a significant portion of their stock in a short period of time, the price of our stock may decline.

We do not intend to declare cash dividends on our Common Stock.

We will not distribute cash to our stockholders unless and until we can develop sufficient funds from operations to meet our ongoing needs and implement our business plan. The time frame for that is unpredictable and investors should not expect dividends in the near future, if at all.

Our Board of Directors has the authority to issue shares of "blank check" preferred stock, which may make an acquisition of the Company by another company more difficult.

We have adopted and may in the future adopt certain measures that may have the effect of delaying, deferring or preventing a takeover or other change in control of the Company that a holder of our Common Stock might consider in its best interest. Specifically, our Board of Directors, without further action by our stockholders, currently has the authority to issue up to 5,000,000 shares of preferred stock and to fix the rights (including voting rights), preferences and privileges of these shares ("blank check" preferred). Such preferred stock may have rights, including economic rights, senior to our Common Stock.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

At September 30, 2012, we had leases for our corporate headquarters, located in Pasadena, California, and our research facility in Madison, Wisconsin. The Company does not own any real property. The following table summarizes the company's leased facilities:

	Office Space	Monthly Rent	Lease Commencement	Lease Term
Pasadena, CA	5,300 sq. ft.	$13,000	August 16, 2011	5.5 years
Madison, WI	24,000 sq. ft.	$56,500	February 16, 2009	10 Years

ITEM 3. LEGAL PROCEEDINGS

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Price Range of Common Stock

Our Common Stock is traded on the NASDAQ Stock Market under the symbol "ARWR". The following table sets forth the high and low sales prices for a share of the Company's Common Stock during each period indicated. On November 17, 2011, the Company effected a 1 for 10 reverse stock split. The share prices in the table below are shown on a post-split basis.

	Fiscal Year Ended September 30,			
	2012		2011	
	High	Low	High	Low
1st Quarter	$7.50	$3.60	$11.00	$8.30
2nd Quarter	6.38	4.13	10.00	6.00
3rd Quarter	7.14	3.12	7.00	4.30
4th Quarter	3.84	2.60	5.90	3.70

Shares Outstanding

At December 19, 2012, an aggregate of 15,719,079 shares of the Company's Common Stock were issued and outstanding, and were owned by 293 stockholders of record, based on information provided by the Company's transfer agent.

Dividends

The Company has never paid dividends on its Common Stock and does not anticipate that it will do so in the foreseeable future.

Securities Authorized for Issuance Under the Equity Compensation Plans

The disclosure required under this item related to equity compensation plans is incorporated by reference from Item 12, under the caption "Equity Compensation Plan Information" in this Annual Report on Form 10-K.

Sales of Unregistered Securities

All information under this Item has been previously reported on our Current Reports on Form 8-K.

Repurchases of Equity Securities

We did not repurchase any shares of our Common Stock during fiscal 2012 or fiscal 2011.

ITEM 6. SELECTED FINANCIAL DATA

As a "Smaller Reporting Company," we are not required to provide this information.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Description of Business

Unless otherwise noted, (1) the term "Arrowhead" refers to Arrowhead Research Corporation, a Delaware corporation, (2) the terms the "Company," "we," "us," and "our," refer to the ongoing business operations of Arrowhead and its Subsidiaries, whether conducted through Arrowhead or a subsidiary of Arrowhead, (3) the term "Subsidiaries" refers collectively to Arrowhead Madison Inc. ("Madison"), formerly known as "Roche Madison, Inc.", Alvos Therapeutics, Inc. ("Alvos"), Calando Pharmaceuticals, Inc. ("Calando"), Ablaris Therapeutics, Inc. ("Ablaris"), Agonn Systems, Inc. ("Agonn"), and Tego Biosciences Corporation ("Tego") as well as our former subsidiary, Unidym, Inc. ("Unidym"), which was divested in January 2011, (4) the term "Minority Investments" refers collectively to Nanotope, Inc. ("Nanotope") and Leonardo Biosystems, Inc. ("Leonardo") in which the company holds a less than majority ownership position, and (5) the term "Common Stock" refers to Arrowhead's Common Stock and the term "stockholder(s)" refers to the holders of Arrowhead Common Stock. All Arrowhead share and per share data have been adjusted to reflect a one for ten reverse stock split effected on November 17, 2011.

Overview

Arrowhead Research Corporation is a clinical stage targeted therapeutics company with development programs in oncology, obesity, and chronic hepatitis B virus infection. Arrowhead is focused on creating new therapeutics that are preferentially taken up by target tissues in order to maximize a drug's efficacy and potentially limit side effects associated with exposure to healthy cells. Arrowhead has assembled a broad set of technologies and licenses to enable targeted RNAi therapeutics capable of silencing specific gene products in specific cells. Arrowhead has also assembled a proprietary targeting library that may be used with its RNAi platforms as well as with small molecule or peptide drugs. These platforms have yielded several drug candidates under both internal and partnered development.

Critical Accounting Policies and Estimates

Management makes certain judgments and uses certain estimates and assumptions when applying accounting principles generally accepted in the United States in the preparation of our Consolidated Financial Statements. We evaluate our estimates and judgments on an ongoing basis and base our estimates on historical experience and on assumptions that we believe to be reasonable under the circumstances. Our experience and assumptions form the basis for our judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may vary from what we anticipate and different assumptions or estimates about the future could change our reported results. We believe the following accounting policies are the most critical to us, in that they are important to the portrayal of our consolidated financial statements and require our most difficult, subjective or complex judgments in the preparation of our consolidated financial statements. For further information, see *Note 1, Organization and Significant Accounting Policies* , to our Consolidated Financial Statements which outlines our application of significant accounting policies and new accounting standards.

Revenue Recognition

Revenue from product sales are recorded when persuasive evidence of an arrangement exists, title has passed and delivery has occurred, a price is fixed and determinable, and collection is reasonably assured.

We may generate revenue from technology licenses, collaborative research and development arrangements, research grants and product sales. Revenue under technology licenses and collaborative agreements typically consists of nonrefundable and/or guaranteed technology license fees, collaborative research funding, and various milestone and future product royalty or profit-sharing payments.

Revenue associated with research and development funding payments under collaborative agreements is recognized ratably over the relevant periods specified in the agreement, generally the research and development period. Revenue from up-front license fees, milestones and product royalties are recognized as earned based on the completion of the milestones and product sales, as defined in the respective agreements. Payments received in advance of recognition as revenue are recorded as deferred revenue.

Business Combinations

In October 2011, we acquired all of the outstanding common stock of Roche Madison, Inc. and certain related intellectual property assets for a $50,000 promissory note and 1,288,158 shares of Arrowhead Common Stock, an estimated consideration value of $5.1 million on the date of the acquisition. We assigned the value of the consideration to the tangible assets and identifiable intangible assets and the liabilities assumed on the basis of their fair values on the date of acquisition. The excess of net assets over the consideration was recorded as a nonoperating gain.

In April 2012, we acquired all of the outstanding common stock of Alvos Therapeutics, Inc. in exchange for the issuance of 315,457 shares of Arrowhead Common Stock, valued at $2.0 million at the time of acquisition. The consideration was assigned to its tangible and intangible assets, and liabilities based on estimated fair values at the time of acquisition.

The allocation of value to certain items, including property and equipment, intangible assets and certain liabilities require management judgment, and is based upon the information available at the time of acquisition.

Impairment of Long-lived Assets

We review long-lived assets for impairment whenever events or changes in business circumstances indicate that the carrying amount of assets may not be fully recoverable or that our assumptions about the useful lives of these assets are no longer appropriate. If impairment is indicated, recoverability is measured by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized in the amount by which the carrying amount of the asset exceeds the fair value of the asset.

Impairment of Intangible assets

Intangible assets consist of in-process research and development, patents and license agreements acquired in conjunction with a business acquisition. Intangible assets are monitored for potential impairment whenever events or circumstances indicate that the carrying amount may not be recoverable, and are also reviewed annually to determine whether any impairment is necessary. Based on early adoption of ASU 2012-02, the annual review of intangible assets is performed via a two-step process. First, a qualitative assessment is performed to determine if it is more likely than not that the intangible asset is impaired. If required, a quantitative assessment is performed and, if necessary, impairment is recorded.

Stock-Based Compensation

We recognize stock-based compensation expense based on the grant date fair value using the Black-Scholes options pricing model, which requires us to make assumptions regarding certain variables including the risk-free interest rate, expected stock price volatility, and the expected life of the award. The assumptions used in calculating stock-based compensation expense represent management's best estimates, but these estimates involve inherent uncertainties, and if factors change or the Company used different assumptions, its stock-based compensation expense could be materially different in the future.

Derivative Assets and Liabilities

We account for warrants and other derivative financial instruments as either equity or assets/liabilities based upon the characteristics and provisions of each instrument. Warrants classified as equity are recorded as additional paid-in capital on our consolidated balance sheet and no further adjustments to their valuation are made. Some of our warrants were determined to be ineligible for equity classification because of provisions that may result in an adjustment to their exercise price. Warrants classified as derivative liabilities and other derivative financial instruments that require separate accounting as assets or liabilities are recorded on our consolidated balance sheet at their fair value on the date of issuance and are revalued on each subsequent balance sheet date until such instruments are exercised or expire, with any changes in the fair value between reporting periods recorded as other income or expense. We estimate the fair value of these assets/liabilities using option pricing models that are based on the individual characteristics of the warrants or instruments on the valuation date, as well as assumptions for expected volatility, expected life and risk-free interest rate. Changes in the assumptions used could have a material impact on the resulting fair value. The primary input affecting the value of our derivatives liabilities is the Company's stock price. For example, at September 30, 2012, a 50% change in the value of the Company's stock price would affect the value of the derivative liability by approximately $0.3 million to $0.4 million, depending on other inputs.

Reverse Stock Split

As of November 17, 2011, the Company effected a 1 for 10 reverse stock split (the "reverse stock split"). As a result of the reverse stock split, each ten shares of the Company's Common Stock issued and outstanding immediately prior to the reverse split was combined into one share of Common Stock. Also, as a result of the Reverse Stock Split, the per share exercise price of, and the number of shares of Common Stock underlying outstanding Company stock options, warrants, Series A Preferred and any Common Stock based equity grants outstanding immediately prior to the reverse stock split was proportionally adjusted, based on the one-for-ten split ratio, in accordance with the terms of such options, warrants or other Common Stock based equity grants as the case may be. No fractional shares of Common Stock were issued in connection with the reverse stock split. Stockholders instead received cash payment in lieu of any fractional shares. Unless otherwise noted, all share and per share amounts in these have been retrospectively adjusted to reflect the reverse stock split.

Full Year Review

On October 21, 2011, the Company acquired Roche Madison, Inc. and other intangible assets from Roche. The acquisition included a laboratory research facility in Madison, Wisconsin comprising over 24,000 square feet. Roche Madison Inc. employed 41 employees at the time of the acquisition. Due to the significant new costs associated with the facility, its people and research programs, salary costs, general and administrative costs, and research and development costs increased significantly relative to prior periods. Going forward, we expect this increased cost structure to continue as research and development efforts are accelerated.

On April 11, 2012, the Company acquired Alvos Therapeutics, Inc., a targeted therapeutics company. Prior to the acquisition, Alvos licensed a large platform proprietary human-derived Homing Peptides and the method for their discovery from MD Anderson Cancer Center. The company hired one employee as a result of the acquisition, and the operations of Alvos are being integrated into our research facility in Madison, Wisconsin.

Results of Operations

The Company had a net loss of $22.1 million for the year ended September 30, 2012, compared to a net loss of $3.5 million for the year ended September 30, 2011, an increase of $18.6 million.

The change in the net loss was the result of a number of factors. During the year ended September 30, 2011, the Company recognized income from discontinued operations of $5.4 million related to the gain on disposal of Unidym, which was not repeated in the current period. In fiscal 2012, the Company recorded an impairment charges and recorded as reserve against a receivable from its unconsolidated affiliates, in the amount of $4.1 million. In fiscal 2012, the company recorded a loss on disposal of equipment of $1.1 million, related to non-strategic equipment obtained in conjunction with the acquisition of Roche Madison, and subsequently sold. These losses were partially offset by a gain recorded on the acquisition of Roche Madison of $1.6 million. All of these items are non-operating, one-time occurrences. However, research and development costs increased significantly in the current fiscal year due to the acquisition of Roche Madison, its facility costs, personnel costs, and program costs. Details of the results of operations are presented below.

Revenues

The Company generated revenue of $147,000 during the year ended September 30, 2012, due to license agreements obtained in conjunction with the acquisition of Roche Madison, as compared to revenue of $296,000 during the year ended September 30, 2011. The revenue in 2011 was primarily related to a qualifying therapeutic discovery grant received by Calando.

Operating Expenses

The analysis below details the operating expenses and discusses the expenditures of the Company within the major expense categories. For purposes of comparison, the amounts for the years ended September 30, 2012 and 2011 are shown in the table below.

Salary & Wage Expenses—Fiscal 2012 compared to Fiscal 2011

The Company employs management, administrative, and scientific and technical staff at its corporate offices and its research facility. Salaries and wages expense consists of salary and related benefits. Salary and benefits include two major categories: general and administrative compensation expense, and research and development compensation expense, based on the primary activities of each employee. The following table provides detail of salary and related benefits expenses for the years ended September 30, 2012 and 2011.

(in thousands)

	Twelve months Ended September 30, 2012	% of Expense Category	Twelve months Ended September 30, 2011	% of Expense Category	Increase (Decrease) $	Increase (Decrease) %
G&A—compensation-related	$ 3,107	48%	$ 1,144	81%	$1,963	172%
R&D—compensation-related	3,308	52%	264	19%	3,044	1153%
Total	$ 6,415	100%	$ 1,408	100%	$5,007	356%

During the year ended September 30, 2012, G&A compensation expense increased $1,963,000. During the fiscal year, upon the acquisition of Roche Madison, the Company expanded its senior management team. Its G&A headcount also increased due to several Madison employees classified as G&A. During the year ended September 30, 2012, R&D compensation expense increased $3,044,000. This increase was due to employees hired upon the acquisition of Roche Madison.

General & Administrative Expenses—Fiscal 2012 compared to Fiscal 2011

The following table provides details of our general and administrative expenses for the fiscal years 2012 and 2011.

(in thousands)

	Twelve months Ended September 30, 2012	% of Expense Category	Twelve months Ended September 30, 2011	% of Expense Category	Increase (Decrease) $	Increase (Decrease) %
Professional/outside services	$ 1,800	28%	$ 2,383	63%	$ (583)	-24%
Patent expense	1,024	16%	604	16%	420	70%
Facilities and related	120	2%	168	4%	(48)	-29%
Travel	369	6%	201	5%	168	84%
Business insurance	202	3%	194	5%	8	4%
Communication and Technology	196	3%	96	3%	100	104%
Office expenses	91	1%	54	1%	37	69%
Other	2,637	41%	95	3%	2,542	NM
Total	$ 6,439	100%	$ 3,795	100%	$ 2,644	70%

Professional/outside services include legal, accounting and other outside services retained by Arrowhead and its subsidiaries. All periods include normally occurring legal and accounting expenses related to SEC compliance and other corporate matters. Professional/outside services expense was $1,800,000 during the year ended September 30, 2012, compared to $2,383,000 in the comparable prior period. In the prior period, the Company recorded expenses of $663,000 related to stock issued for financing commitments in association with the September 2011 financing in conjunction with the acquisition of Roche Madison, Inc.

Patent expense was $1,024,000 during the year ended September 30, 2012, compared to $604,000 in the comparable prior period. During the year ended September 30, 2012, approximately half of the patent expense was related to fees paid to patent counsel for the maintenance of newly acquired intellectual property in conjunction with the acquisition of Roche Madison. The balance of patent expense primarily relates to Calando's intellectual property portfolio, and to a lesser extent the intellectual property acquired in conjunction with the Alvos acquisition and the Ablaris patent portfolio. The Company expects to continue to invest in patent protection as the Company extends and maintains protection for its current portfolios and files new patent applications as its product applications are improved.

Facilities and related expense was $120,000 during the year ended September 30, 2012, compared to $168,000 in the comparable prior period. Facilities and related expense within general and administrative expenses primarily relate to rental costs associated with the Company's headquarters in Pasadena, California. Facilities expense decreased due to reduction in the company's rental expense because its lease for its corporate headquarters expired. During most of fiscal 2012, the Company occupied smaller and less expensive office space. In August 2012, the Company moved into a new facility. Its rental costs in fiscal 2013 are expected to increase relative to the temporary space occupied in 2012.

Travel expense was $369,000 during the year ended September 30, 2012, compared to $201,000 in the comparable prior period. Travel expense increased due to travel associated with the acquisition of Roche Madison Inc., as well as additional travel costs related to Madison-based employees. During fiscal 2012, the Company hired a Chief Operating Officer and a Chief Business Officer, whose job functions require travel. Also, travel costs are expected to increase in the future due to increased travel between the Madison and Pasadena locations. Travel expense includes costs related to travel by Company personnel for operational business meetings at other company locations, business initiatives and collaborations throughout the world with other companies, marketing, investor relations, fund raising and public relations purposes. Travel expenses can fluctuate from quarter to quarter and from year to year depending on current projects and activities.

Business insurance expense was $202,000 during the year ended September 30, 2012, compared to $194,000 in the comparable prior period. The company experienced favorable rate decreases in its Directors and Officers insurance coverage, which was offset by additional insurance costs associated with Madison.

Communication and technology expense was $196,000 during the year ended September 30, 2012, compared to $96,000 in the comparable prior period. The increase was related to software maintenance costs at Madison, primarily desk top software and license renewal fees on software related to the operation of laboratory equipment.

Office expenses are administrative costs to facilitate the operations of the Company's office facilities in Pasadena and Madison, and include office supplies, copier/printing costs, postage/delivery, professional dues/memberships, books/subscriptions, staff amenities, and professional training. Office expenses were $91,000 during the year ended September 30, 2012, compared to $54,000 in the comparable prior period. The increase in office expenses was related to costs incurred at its newly acquired Madison facility.

Other expense was $2.6 million during the year ended September 30, 2012 compared to $95,000 in the comparable prior period. During the year ended September 30, 2012, the Company recorded reserves against receivable from its unconsolidated affiliates, Nanotope and Leonardo in the amount of $2.5 million.

Research and Development Expenses—Fiscal 2012 compared to Fiscal 2011

R&D expenses are related to the Company's on-going research and development efforts, primarily related to its laboratory research facility in Madison, Wisconsin, and also include outsourced R&D services. The following table provides detail of research and development expense for the years ended September 30, 2012 and 2011.

(in thousands)

	Twelve months Ended September 30, 2012	% of Expense Category	Twelve months Ended September 30, 2011	% of Expense Category	Increase (Decrease) $	Increase (Decrease) %
Outside labs & contract services	$ 1,096	20%	$ 605	19%	$ 491	81%
In vivo studies	302	6%	29	1%	273	941%
Drug Manufacturing	1,256	23%	68	2%	1,188	1747%
Consulting	655	12%	440	13%	215	49%
License, royalty & milestones	274	5%	2,045	63%	(1,771)	-87%
Laboratory supplies & services	793	15%	2	0%	791	NM
Facilities and related	787	15%	8	0%	779	NM
Sponsored research	185	3%	75	2%	110	147%
Other research expenses	43	1%	6	0%	37	617%
Total	$ 5,391	100%	$ 3,278	100%	$ 2,113	64%

Outside lab and services expense was $1,096,000 during the year ended September 30, 2012, compared to $605,000 in the comparable prior period. The increase is due to outside services contracted to complement the research performed at our Madison facility, which was acquired in October 2012, and not part of the prior period expenses.

In vivo studies expense was $302,000 during the year ended September 30, 2012, compared to 29,000 in the comparable prior period. The current period expense relates to preclinical animal studies at our Madison research facility, and we expect this increased level of expense for such studies to continue at an elevated level as the company accelerates its product development efforts. The prior period expense related to certain limited outsourced in vivo studies related to Calando.

Drug manufacturing expense was $1,256,000 during the year ended September 30, 2012, compared to $68,000 in the comparable prior period. Approximately half of the drug manufacturing expense related to raw materials, specifically, polymer components for RONDEL. Prior year costs for this program were $68,000. The other half of the drug manufacturing costs relate to our manufacturing campaign related to the Company's Hepatitis B Virus (HBV) program, which began in the fourth quarter of fiscal 2012, for use in upcoming GLP toxicity studies planned in the first half of fiscal 2013. The Company is utilizing outside manufacturers to produce these components; these costs will continue until the manufacturing campaign is completed in 2013.

Consulting expense was $655,000 during the year ended September 30, 2012, compared to $440,000 in the comparable prior period. The increase in consulting expense was primarily related to fees paid to our consultants monitoring our clinical trial at Calando, as well as clinical consulting costs for a planned clinical trial in HBV, as well as higher costs associated with the scientific advisory board at Ablaris.

License, royalty & milestone expense was $274,000 during the year ended September 30, 2012, compared to $2,045,000 in the comparable prior period. The licensing fees, royalty and milestones expenses during the prior year reflect a one-time to $2 million in licensing fees paid to University of Texas M.D. Anderson Cancer Center for the anti-obesity compound licensed by Ablaris. The current year expense also relates to Ablaris and was payable to the University of Texas M.D. Anderson Cancer Center related to a milestone achieved by dosing its first patient in an obesity/prostate cancer clinical trial.

Stock-based compensation expense

Stock-based compensation expense, a noncash expense, was $1,241,000 during the year ended September 30, 2012, compared to $1,376,000 during the comparable prior period. Stock-based compensation expense is based upon the valuation of stock options granted to employees, directors, and certain consultants. Many variables affect the amount expensed, including the Company's stock price on the date of the grant, as well as other assumptions. Based on the completion of vesting of a number of stock options during the second half of fiscal 2011, compensation expense related to those awards ended. This was mostly offset by additional options granted to new and existing employees in fiscal 2012.

Depreciation and amortization expense

Depreciation and amortization expense, a noncash expense, was $1,749,000 during the year ended September 30, 2012, compared to $268,000 during the comparable prior period. The majority of depreciation and amortization expense relates to depreciation on lab equipment obtained as part of the acquisition of Roche Madison. In addition, the Company records depreciation on leasehold improvements at its Madison research facility. The Madison facility was acquired in October 2011; therefore, there was no related depreciation in the prior year. Finally, certain patents acquired previously have been capitalized and amortized over the remaining useful lives of the respective patents.

Other Income / Expense

Other income / expense changed from income of $1,045,000 in fiscal 2011 to other expense of $1,021,000 in fiscal 2012. During fiscal 2012, the Company recorded several nonrecurring items: Impairment of its investment in its unconsolidated affiliate, Nanotope of $1.4 million, a loss on the disposal of fixed assets of $1.1 million, and a gain recorded upon the acquisition of Roche Madison of $1.6 million, and an impairment of its investment in Leonardo of $0.2 million. Other component of other income/expense was the change in value of derivatives, which was $387,000 in fiscal 2012, compared to $1.1 million in fiscal 2011.

Liquidity and Cash Resources

As a development stage company, Arrowhead has historically financed its operations through the sale of securities of Arrowhead and its Subsidiaries. Research and development activities have required significant capital investment since the Company's inception, and are expected to continue to require significant cash investment in fiscal 2012.

At September 30, 2012, the Company had cash on hand of approximately $3.4 million. In addition, the Company had subscriptions receivable from previous financings of $1.0 million, and a short term note receivable of approximately $2.4 million. Cash and cash equivalents decreased $4.1 million during fiscal 2012 from $7.5 million at September 30, 2011 to $3.4 million at September 30, 2012.

Cash used in operating activities was $16.0 million, which represents the on-going expenses of its research and development programs, and corporate overhead. Cash outlays were primarily composed of the following: salary and payroll-related costs was $6.5 million, general and administrative costs were $4.0 million, research and development costs were $4.8 million. $0.9 million was used to fund operating expenses at Arrowhead's two minority interest companies, Nanotope and Leonardo. Cash expenses were somewhat offset by cash received from revenues of $0.2 million.

Cash provided by investing activities was $0.4 million, primarily related to cash received from the sale of investments of $0.5 million, proceeds from the disposal of fixed assets of $0.3 million, offset by capital expenditures of $0.5 million.

Cash provided by financing activities of $10.8 million includes $11.0 million received related to cash received from the sale of Common Stock, offset by principal payments on capital leases of $0.2 million.

These matters raise substantial doubt about the Company's ability to continue as a going concern. These financial statements were prepared under the assumption that the Company will continue as a going concern and do not include any adjustments that might result from the outcome of that uncertainty.

Recent Financing Activity / Sources of Capital:

In December 2012, the Company sold 1.9 million units at a price of $2.26 per unit in a public offering. Each unit consisted of one share of Common Stock and a warrant to purchase 0.5 share of Common Stock, exercisable at $2.20. Gross proceeds from the offering were $4.3 million, which included a $500,000 promissory note due February 1, 2013. Commissions and other offering expenses are expected to be approximately $300,000.

On August 10, 2012, the Company sold 2.3 million units at a price of $2.76 per unit in a registered offering to institutional and individual investors. Each unit consisted of one share of Common Stock and a warrant to purchase 0.75 share of Common Stock exercisable at $3.25 per share. Gross proceeds from the offering were approximately $6.2 million, with net proceeds of approximately $5.8 million after deducting commissions and other offering expenses.

On September 30, 2011, the Company sold 1,458,917 shares of Common Stock at a price of $3.80 per share. Cash proceeds received in fiscal 2011 were $4.6 million, cash proceeds in the first six months of fiscal 2012 were $0.4 million, and the balance is expected to be received in 2012. On October 4, 2011, the Company completed a second closing to the offering in which the Company sold 138,158 shares of Common Stock at a price of $3.80 per share. Cash proceeds were $525,000.

On October 20, 2011, the Company and Lincoln Park Capital Fund, LLC, an Illinois limited liability company ("LPC") entered into a $15 million purchase agreement, together with a registration rights agreement, whereby LPC agreed to purchase up to $15 million of Common Stock, subject to certain limitations, from time to time during the three-year term of the agreement. Additionally, the Company filed a registration statement with the U.S. Securities & Exchange Commission covering the resale of the shares that may be issued to LPC under the agreement. On January 30, 2012, the SEC declared the registration statement effective for the resale of such shares. The Company has the right, in its sole discretion, over a 36-month period to sell up to $15 million of Common Stock (subject to certain limitations) to LPC, depending on certain conditions as set forth in the agreement. As of September 30, 2012, the Company had drawn $1 million from the facility.

Although the Company has sources of liquidity, as described above, the Company anticipates that further equity financings, and/or asset sales and license agreements will be necessary to continue to fund operations in the future.

Off-Balance Sheet Arrangements

As of September 30, 2012, we did not have any off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of SEC Regulation S-K.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

As a "Smaller Reporting Company," we are not required to provide this information.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The information required by this item is included in Item 15 of this Annual Report Form 10-K.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.

None.

ITEM 9A. CONTROLS AND PROCEDURES.

Our Chief Executive Officer and our Chief Financial Officer, after evaluating our "disclosure controls and procedures" (as defined in Securities Exchange Act of 1934 (the "Exchange Act") Rules 13a-15(e) and 15d-15(e)) as of the end of the period covered by this Annual Report on Form 10-K (the "Evaluation Date") have concluded that as of the Evaluation Date, our disclosure controls and procedures are effective to ensure that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms, and to ensure that information required to be disclosed by us in such reports is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer where appropriate, to allow timely decisions regarding required disclosure.

Management's Annual Report on Internal Control over Financial Reporting

Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States. This process includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of the internal control over financial reporting to future periods are subject to risk that the internal control may become inadequate because of changes in conditions, or that the degree of compliance with policies or procedures may deteriorate.

Management's Assessment of the Effectiveness of our Internal Control over Financial Reporting

Management has evaluated the effectiveness of our internal control over financial reporting as of September 30, 2012. In conducting its evaluation, management used the framework set forth in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on our evaluation under such framework, management has concluded that our internal control over financial reporting was effective as of September 30, 2012.

Changes in Internal Control Over Financial Reporting

There was no change in our internal control over financial reporting that occurred during the fourth quarter of the year ended September 30, 2012, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE.

Board of Directors:

The names and ages of our directors serving as of December 14, 2012 are provided below. Directors are elected annually for a one year term. Biographical information regarding these officers is set forth under the following table.

Name	Age	Position with Arrowhead
Christopher Anzalone	43	Chief Executive Officer & President and Director
Douglass Given	60	Chairman of the Board
Mauro Ferrari	53	Director
Edward W. Frykman	76	Director
Charles P. McKenney	74	Director
Michael S. Perry	53	Director

Dr. Christopher Anzalone has been President, Chief Executive Officer and Director of the Company since December 1, 2007. In 2005, Dr. Anzalone formed and served as CEO of the Benet Group LLC, private equity firm focused on creating and building new nano-biotechnology companies from university-generated science. While at The Benet Group, Dr. Anzalone was founding CEO in two portfolio companies, Nanotope Inc., a tissue regeneration company, and Leonardo Biosystems Inc., a cancer drug delivery company. Dr. Anzalone remains CEO and director of Nanotope. Dr. Anzalone is a director of Arrowhead's wholly-owned subsidiary, Arrowhead Madison Inc., majority-owned subsidiaries, Calando Pharmaceuticals, Inc., Ablaris Therapeutics, Inc., and Tego Biosciences Corporation and minority investment, Leonardo Biosystems, Inc. Prior to his tenure at Benet Group, from 1999 until 2003, he was a partner at the Washington, DC-based private equity firm Galway Partners, LLC, where he was in charge of sourcing, structuring, and building new business ventures and was founding CEO of NanoInk, Inc., a leading nanolithography company. Dr. Anzalone holds a Ph.D. in Biology from UCLA and a B.A. in Government from Lawrence University. We believe Dr. Anzalone's qualifications to serve on the Board include his deep understanding of the business through his role as Chief Executive Officer; in addition Dr. Anzalone has extensive experience in nanotechnology, biotechnology, company-building and venture capital.

Dr. Mauro Ferrari was appointed to the Arrowhead Board of Directors in 2010. Dr. Ferrari is the President and CEO of The Methodist Hospital Research Institute (TMHRI). He is also the President of The Alliance for NanoHealth. Dr. Ferrari is a director of Arrowhead's minority investment, Leonardo Biosystems, Inc. Dr. Ferrari is an internationally recognized expert in nanomedicine and biomedical nanotechnology. Prior to assuming leadership of TMHRI, Dr. Ferrari was Professor and Chairman of The Department of NanoMedicine and Biomedical Engineering at The University of Texas Health Science Center at Houston, Professor of Experimental Therapeutics at the MD Anderson Cancer Center, Adjunct Professor of Bioengineering at Rice University, and Adjoint Professor of Biomedical Engineering at the University of Texas in Austin. His previous academic appointments include professorships at UC Berkeley and Ohio State University.

From 2003 to 2005, he served as Special Expert on Nanotechnology and Eminent Scholar at The National Cancer Institute, where he led in the development of the NCI's program in Nanotechnology, which remains the largest program in NanoMedicine in the world. Dr. Ferrari has been serving as the Editor-in-Chief for "Biomedical Microdevices: BioMEMS and Biomedical Nanotechnology" since 1997. We believe Dr. Ferrari's qualifications to serve on the Board include his extensive training and experience in the fields of nanotechnology, biotechnology and biomedical applications. Dr. Ferrari has significant technical training, several academic appointments and numerous published articles and patents. Additionally, Dr. Ferrari has extensive experience in developmental stage organizations having founded several startup companies.

Edward W. Frykman has been a director of the Company since January 2004. Mr. Frykman was an Account Executive with Crowell, Weedon & Co., a position he held from 1992 until 2008 when he retired. Before his service at Crowell, Weedon & Co., Mr. Frykman served as Senior Vice President of L.H. Friend & Co. Both Crowell Weedon & Co. and L.H. Friend & Co. are investment brokerage firms located in Southern California. In addition, Mr. Frykman was a Senior Account Executive with Shearson Lehman Hutton, where he served as the Manager of the Los Angeles Regional Retail Office of E. F. Hutton & Co. Mr. Frykman was a director in Arrowhead's predecessor company since its inception in May 2003 until January 2004, when he became a director of the Company. Mr. Frykman is also a director of Acacia Research Corporation, a publicly-held corporation based in Newport Beach, California. Mr. Frykman is a director of Arrowhead's majority-owned subsidiaries Calando Pharmaceuticals, Inc., Ablaris Therapeutics, Inc., and Tego Biosciences Corporation. We believe Mr. Frykman's qualifications to serve on the Board include his long tenure as a member of the Board which enabled Mr. Frykman to gain a deep understanding of the company's operations, strategy and finances. Mr. Frykman also has extensive experience in the fields of finance and public company oversight.

Dr. Douglass Given has been a director of the company since November 2010. He is an Investment Partner at Bay City Capital and has been with the firm since October 2000. He was formerly Chief Executive Officer and a director of NeoRx, Corporate Sr. Vice President and Chief Technical Officer of Mallinckrodt, and Chief Executive Officer and a director of Progenitor and Mercator Genetics. He held positions as Vice President at Schering Plough Research Institute, Vice President at Monsanto/G.D. Searle Research Laboratories, and Medical Advisor at Lilly Research Laboratories. Dr. Given is the Chairman of VIA Pharmaceuticals, and Chairman of Vivaldi Biosciences. He is Chairman of the Visiting Committee to the Division of Biological Sciences and the Pritzker School of Medicine at the University of Chicago, a member of the Johns Hopkins Bloomberg School of Public Health Advisory Board, and a member of the Harvard School of Public Health AIDS Initiative International Advisory Council.

Dr. Given holds an MD with honors and a PhD from the University of Chicago, and an MBA from the Wharton School, University of Pennsylvania. He was a fellow in Internal Medicine and Infectious Diseases at Harvard Medical School and Massachusetts General Hospital. We believe Dr. Given's qualifications to serve on the Board include his extensive experience in finance and business transactions, particularly investments in the life sciences industry as well as directorship roles in start-up biotechnology companies. Dr. Given also has significant leadership roles, including CEO and Senior Vice President, at several large pharmaceutical companies. Dr. Douglass Given is a brother of Dr. Bruce Given, our chief operating officer.

Charles P. McKenney has been a director of the Company since April 2004. Mr. McKenney has maintained a government affairs law practice in Pasadena, California since 1989, representing businesses and organizations in their relations with state and local government regarding their obligations under state and local land use and trade practices laws. From 1973 through 1989, he served as Attorney for Corporate Government Affairs for Sears, Roebuck and Co., helping organize and carry out Sears's western state and local government relations programs. Mr. McKenney has served two terms on the Pasadena, California, City Council as well as on several city boards and committees, including three city Charter Reform Task Forces. Mr. McKenney is a director of Arrowhead's majority-owned subsidiaries Calando Pharmaceuticals, Inc., Ablaris Therapeutics, Inc., and Tego Biosciences Corporation. We believe Mr. McKenney's qualifications to serve on the Board include his long tenure as a member of the Board resulting in a deep understanding of the Company's operations, strategy and finances. Mr. McKenney also has extensive experience providing strategic legal and advisory services to developmental stage organizations.

Dr. Michael S. Perry joined Arrowhead's Board of Directors in December 2011. Dr. Perry is Global Head, Cell Therapy at Novartis Pharma. Prior to his appointment at Novartis, Dr. Perry was a Venture Partner with Bay City Capital LLP from 2005 until November 2012 and President and Chief Medical Officer of Poniard Pharmaceuticals from 2010 to November 2012. He also currently serves as a member of the board of directors of AmpliPhi Biosciences Corporation (APHB.PK). He was Chief Development Officer at VIA Pharmaceuticals, Inc., a publicly held drug development company, from April 2005 until May 2009. Prior thereto, he served as Chairman and Chief Executive Officer of Extropy Pharmaceuticals, Inc., a privately held pediatric specialty pharmaceutical company, from June 2003 to April 2005. From 2002 to 2003, Dr. Perry served as President and Chief Executive Officer of Pharsight Corporation, a publicly held software and consulting services firm. From 2000 to 2002, Dr. Perry served as Global Head of Research and Development for Baxter BioScience. From 1997 to 2000, Dr. Perry was President and Chief Executive Officer of both SyStemix Inc. and Genetic Therapy Inc., two wholly owned subsidiaries of Novartis Corp. and from 1994 to 1997, he was Vice President of Regulatory Affairs for Novartis Pharma (previously Sandoz Pharmaceuticals). Prior to 1994, Dr. Perry held various management positions with Syntex Corporation, Schering-Plough Corporation and BioResearch Laboratories, Inc. Dr. Perry holds a Doctor of Veterinary Medicine, a Ph.D. in Biomedical Pharmacology and a B.Sc. in Physics from the University of Guelph, Ontario, Canada. He is a graduate of the International Management Program at Harvard Business School. We believe Dr. Perry's qualifications to serve on the board include his medical expertise and his extensive experience in preclinical and clinical drug development, including executive level leadership roles in several publicly held biotech companies.

Executive Officers:

The names and ages of our executive officers and the positions held by each as of December 19, 2012 are as follows:

Name	Age	Position with Arrowhead
Christopher Anzalone	43	Chief Executive Officer & President and Director
Kenneth A. Myszkowski	46	Chief Financial Officer
Bruce Given	58	Chief Operating Officer

Dr. Christopher Anzalone (see Board of Directors)

Kenneth A. Myszkowski, Chief Financial Officer, joined Arrowhead in 2009. Prior to joining Arrowhead, Mr. Myszkowski served as the corporate controller for Broadwind Energy, a public energy company which provides products and services to the wind energy industry. Previous to his position at Broadwind, Mr. Myszkowski was controller for Epcor USA, the U.S. headquarters for Epcor Utilities, Inc., a public energy company. Prior to Epcor, Mr. Myszkowski was controller for two start-up ventures: NanoInk, specializing in Dip Pen Nanolithography, a nanofabrication technology, and Delphion, which provided on-line tools for intellectual

property research. Mr. Myszkowski also held several corporate roles at FMC Corporation, and Premark International, both Fortune 500 conglomerates. He began his career in the audit practice of Arthur Andersen & Co. in Chicago, Illinois. Mr. Myszkowski received his undergraduate degree from the University of Illinois, and his MBA from the University of Chicago Booth School of Business. He is a certified public accountant.

Dr. Bruce Given , Chief Operating Officer, joined Arrowhead in 2011. Since October 1, 2009, Dr. Given has been a director of the Company's subsidiary, Calando Pharmaceuticals, Inc., and since February 1, 2010, Dr. Given has been Chief Executive Officer of Leonardo Biosystems, Inc., a company in which Arrowhead holds a minority equity interest. Dr. Given has been a member of the Board of Directors for ICON, plc. since 2007 and Chairman of the Board of Directors since 2010. Dr. Given served as the President and Chief Executive Officer, and as a member of the Board of Directors of Encysive Pharmaceuticals, an R&D-based commercial pharmaceutical company, roles he held from 2002 through 2007. Subsequent to his tenure at Encysive until present, Dr. Given has been President of Bruce Given Consulting, a firm that provides consulting services to biotech companies. Prior to his tenure at Encysive, Dr. Given held several senior executive roles at Johnson and Johnson, Sandoz Pharmaceuticals, and Schering-Plough. Dr. Given obtained his bachelor of sciences degree from Colorado State University, graduating Phi Beta Kappa. He received his M.D. degree with honors from the University of Chicago, Pritzker School of Medicine and completed his medical training at the University of Chicago and at Brigham and Women's Hospital in Boston, where he was a Clinical Fellow at Harvard Medical School. He is board certified in internal medicine and endocrinology and metabolism and has authored 33 scientific publications. Dr. Bruce Given is a brother of Dr. Douglass Given, a director of the company.

Section 16(a) Beneficial Ownership Reporting Compliance

Under Section 16(a) of the Securities Exchange Act of 1934, the Company's directors and officers and its significant stockholders (defined by statute as stockholders beneficially owning more than ten percent (10%) of the Common Stock) are required to file with the SEC and the Company reports of ownership, and changes in ownership, of common stock. Based solely on a review of the reports received by it, the Company believes that, during the fiscal year ended September 30, 2012, all of its officers, directors and significant stockholders complied with all applicable filing requirements under Section 16(a).

Code of Ethics

We have adopted a code of conduct that applies to our Chief Executive Officer, Chief Financial Officer, and to all of our other officers, directors and employees. The code of conduct is available at the Corporate Governance section of the Investor Relations page on our website at www.arrowheadresearch.com. Any waivers from or amendments to the code of conduct, if any, will be posted on our website.

Corporate Governance

The Audit Committee of the Board is currently comprised of three directors and operates under a written charter adopted by the Board. The members of the Audit Committee are Edward W. Frykman, Charles P. McKenney and Mike Perry. All members of the Audit Committee are "independent," as defined in Rule 10A-3 under the Exchange Act and Rule 5605 of the NASDAQ Marketplace Rules, and financially literate. The Board has determined that Mr. Frykman is an "audit committee financial expert" in accordance with the applicable regulations.

ITEM 11. EXECUTIVE COMPENSATION.

Executive Officers

Summary Compensation Table

The following table summarizes compensation paid, awarded or earned for services rendered during fiscal 2012 and fiscal 2011 by our Chief Executive Officer, our Chief Financial Officer, and our other executive officer serving the Company as of September 30, 2012. We refer to those persons collectively as our "Named Executive Officers".

Name and Principal Position	Year	Salary ($)	Bonus ($)	Stock Awards ($)	Option Awards ($)(1)	All Other Compensation ($)(2)	Total ($)
Christopher Anzalone							
President & Chief	2012	473,000	200,000	—	811,685	—	1,484,685
Executive Officer	2011	400,000	25,000	—	—	—	425,000
Ken Myszkowski							
Chief Financial	2012	262,000	60,000	—	425,672	9,731	757,403
Officer	2011	225,000	7,500	—	—	9,000	241,500
Bruce Given							
Chief Operating							
Officer (3)	2012	317,000	—	—	605,445	9,459	931,904

(1) This column represents the total grant date fair value, computed in accordance with ASC 718, of stock options granted during fiscal year 2012. No stock options were granted during fiscal 2011. The assumptions used to calculate the value of the stock underlying the option awards are set forth in Note 9 of the Notes to the Consolidated Financial Statements attached hereto.
(2) Amounts consist of 401(k) matching contributions.
(3) Bruce Given was hired on October 26, 2012, thus compensation reflected is for a partial year of approximately eleven months.

Outstanding Equity Awards at Fiscal Year-End

The following table provides information, with respect to the Named Executive Officers, concerning the Outstanding Equity Awards of the Company's stock as of September 30, 2012. Note that the information in Item 11 reflects the adjustment related to the 1- for-10 reverse stock split which occurred on November 17, 2011.

	Option Awards (1)			
	Number of Securities Underlying Unexercised Options (#) (Exercisable)	Number of Securities Underlying Unexercised Options (#) (Unexercisable)	Option Exercise Price ($)	Option Expiration Date
Christopher Anzalone	2,500	—	21.30	6/11/2018
	112,650	—	5.10	10/8/2019
	56,325	—	5.20	3/4/2020
	26,042	23,958	9.90	8/16/2020
	3,438	11,562	4.60	10/21/2021
	24,792	145,208	5.19	2/16/2022
	—	50,000	2.62	9/28/2022
Ken Myszkowski	16,927	8,073	7.00	11/16/19
	8,000	—	5.20	3/4/2020
	6,250	5,750	9.90	8/16/2020
	3,438	11,562	4.60	10/21/2021
	12,104	70,896	5.19	2/16/2022
	—	25,000	2.62	9/28/2022
Bruce Given	771	229	6.20	9/28/19
	6,875	23,125	5.20	10/26/2021
	16,042	93,958	5.19	2/16/2022
	—	35,000	2.62	9/28/2022

(1) Except for 30,000 options granted to Bruce Given as an inducement grant upon his hire, all option awards were granted under the 2000 Stock Option Plan or the 2004 Equity Incentive Plan of the Company. Options are priced at the market closing price on the day of the award. Options have various vesting parameters, but generally vest within 48 months or less after the award is granted.

Director Compensation

Directors who are also employees of the Company receive no separate compensation from the Company for their service as members of the Board. Non-employee directors currently receive a cash retainer of $37,500 per year. Additionally, non-employee directors received periodic grants of stock options based on recommendation of the compensation committee. Based on the policy of his current employer, Dr. Ferrari has waived his right to receive cash compensation and has waived his right to received stock option grants during fiscal 2012. Dr. Given declined to accept cash compensation during fiscal 2012. The following table sets forth the total compensation paid to our directors in fiscal 2012.

Name	Fee Earned or Paid in Cash ($) (1)	Option Awards ($) (2) (3)	Total ($)
Douglass Given	$ —	$130,210	$130,210
Edward Frykman	$ 33,125	$ 74,500	$107,625
Charles McKenney	$ 33,125	$ 74,500	$107,625
Mike Perry	$ 28,125	$158,300	$186,425
Mauro Ferrari	$ —	$ —	$ —

(1) Beginning in February 2012, quarterly compensation to non-employee directors was increased from $5,000 to $9,375. There are no additional payments for being a member of a committee. Dr. Ferrari and Dr. Given have declined to receive cash compensation at this time.

(2) This column represents the total grant date fair value, computed in accordance with ASC 718, of stock options granted during fiscal year 2012. The assumptions used to calculate the value of option awards are set forth under Note 7 to the Consolidated Financial Statements attached hereto.

(3) Option grants to non-employee directors generally vest one year from date of grant. At September 30, 2012, Mr. Frykman had outstanding option grants to purchase 55,500 shares at prices ranging from $2.62 to $20.20; Mr. McKenney had outstanding option grants to purchase 53,000 shares at prices ranging from $2.62 to $20.20; Mr. Perry had outstanding option grants to purchase 50,000 shares at prices ranging from $2.62 to $5.19; Dr. Given had outstanding option grants to purchase 40,000 shares at prices ranging from $2.62 to $5.19; and Dr. Ferrari had outstanding option grants to purchase 24,843 shares at prices ranging from $9.60 to $28.70.

Risk Management and Mitigation

In reviewing the compensation structure, the Compensation Committee has considered how the Company's compensation policies may affect the Company's risk profile and how compensation policies may be used to mitigate risks facing the Company. In considering these issues, the Compensation Committee determined that the use of performance-based bonuses and long-term equity awards did not appear to create undue risks for the Company or encourage excessive risk-taking behavior on the part of employees.

With respect to bonus awards, the amount of an individual's award depends principally on overall Company performance, which reduces the ability and incentive for an individual to take undue risks in an effort to increase the amount of his or her bonus award for a particular year. The Company's performance goals are reviewed and approved by the Compensation Committee at the beginning of each fiscal year and are considered to be generally of the nature that would not encourage or reward excessive risk taking. Additionally, the Compensation Committee monitors Company performance throughout the year and has the ability to intervene in instances where actions by the Company vis-à-vis Company performance goal attainment would be considered unduly risky to prevent or penalize such actions.

With respect to equity awards, these awards typically vest over several years, meaning that long-term value creation, contrasted with short-term gain, presents the best opportunity for employees to profit from these awards. To the extent that performance-based equity awards are used, the events that trigger vesting are expected to be realized several years in the future. The Company has not historically used claw-back provisions or imposed holding periods for vested awards, although the Compensation Committee will consider whether such mechanisms might be appropriate in the future to mitigate risk as the Company transitions from a drug development company to a fully integrated specialty pharmaceutical company with commercial operations. Additionally, the use of financial-based performance metrics to determine employee compensation may subject those payouts to claw-back penalties under the Dodd-Frank Act, to the extent that there is a subsequent restatement of the financial measure that was used to determine a payout.

Compensation Committee Interlocks and Insider Participation

During the last completed fiscal year, no member of the Compensation Committee was a current or former officer or employee of the Company. None of our executive officers served as a member of the compensation committee (or board of directors serving the compensation function) of another entity where such entity's executive officers served on our Compensation Committee. Moreover, none of our executive officers served as a member of the compensation committee (or board of directors serving the compensation function) of another entity where such entity's executive officers served on our Board.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS.

The following table sets forth the beneficial ownership of the Company's Common Stock as of November 30, 2012, by (i) each of the named executive officers named in the table under Executive Compensation – Summary Compensation Table," (ii) each director, (iii) all current directors and executive officers as a group, and (iv) the holders of greater than 5% of our total shares outstanding known to us. Unless otherwise specified in the footnotes to the table below, the persons and entities named in the table have sole voting and investment power with respect to all shares beneficially owned, subject to community property laws, where applicable and the address of each stockholder, unless otherwise indicated below, is c/o Arrowhead Research Corporation, 225 South Lake Avenue, Suite 1050, Pasadena, California 91101. All information in Item 12 has been adjusted to reflect the 1 for 10 reverse stock split which was effected on November 17, 2011.

	Number and Percentage of Shares Beneficially Owned (1)	
	Shares	Percentage
5% Beneficial Owners		
M. Robert Ching (2)	1,344,339	9.9%
Galloway Ltd. (3)	1,270,981	9.4%
Roche Finance Ltd. (5)	1,141,596	8.4%
Sabby Healthcare Volatility Master Fund, Ltd. (4)	905,796	6.7%
Vermogensverwaltungs—Gesellschaft Zurich (6)	675,000	5.0%
Executive Officers and Directors		
Chris Anzalone (7)	315,844	2.3%
Kenneth Myszkowski (8)	61,552	*
Bruce Given (9)	38,355	*
Edward Frykman (10)	37,500	*
Charles McKenney (11)	29,020	*
Mauro Ferrari (12)	26,796	*
Mike Perry (13)	6,771	*
Douglass Given	—	—
Executive officers and directors as a group (8 persons) (14)	515,838	3.8%

* Less than 1%

(1) Based on 13,579,184 common shares issued and outstanding as of November 30, 2012. Shares not outstanding but deemed beneficially owned by virtue of the right of a person to acquire them as of November 30, 2012, or within sixty days of such date, are treated as outstanding only when determining the percentage owned by such individual and when determining the percentage owned by a group.

(2) Includes 793,611 shares of common stock and 1,102,232 shares of common stock issuable upon the exercise of common stock purchase warrants, of which 371,687 shares of common stock, and 262,805 shares of common stock issuable upon the exercise of common stock purchase warrants are held by BBB Assets for which M. Robert Ching holds investment and voting control. Certain of the warrants are subject to a contractual blocker whereby the right to exercise such warrant is limited such that Dr. Ching will not have greater than 9.99% beneficial ownership of the outstanding common stock. Warrants to purchase 306,939 shares are currently not exercisable due to this limitation.

(3) Denham Eke holds voting and investment control with respect to the shares owned by Galloway, Ltd. The address for Galloway, Ltd. is Viking House, Nelson Street, Douglas, Isle of Man, IM1 2AH

(4) Hal Mintz holds voting and investment control with respect to shares owned by Sabby Healthcare Volatility Master Fund, Ltd., the address for which is 89 Nexus Way, Camana Bay, Grand Cayman KY1-9007, Cayman Islands

(5) Carole Nuechterlein, Head of Roche Venture Fund, holds voting and investment control with respect to the shares owned by Roche Finance, Ltd. The address for Roche Finance Ltd. is Grenzacherstrasse 124, 4058 Basel Switzerland.

(6) Markus Winkler holds voting and investment control with respect to the shares owned by Vermogensverwaltungs—Gesellschaft Zurich (VGZ), the address for VGZ is Mainaustrasse 30, CH - 8034 Zurich Switzerland

(7) Includes 249,498 shares issuable upon the exercise of stock options, and 32,173 shares issuable upon the exercise of common stock purchase warrants that are exercisable within 60 days of November 30, 2012.

(8) Includes 60,052 shares issuable upon the exercise of stock options that are exercisable within 60 days of November 30, 2012.

(9) Includes 38,355 shares issuable upon the exercise of stock options that are exercisable within 60 days of November 30, 2012.

(10) Includes 30,500 shares issuable upon the exercise of stock options that are exercisable within 60 days of November 30, 2012.

(11) Includes 28,000 shares issuable upon the exercise of stock options that are exercisable within 60 days of November 30, 2012.

(12) Includes 24,845 shares issuable upon the exercise of stock options that are exercisable within 60 days of November 30, 2012.

(13) Includes 6,771 shares issuable upon the exercise of stock options that are exercisable within 60 days of November 30, 2012.

(14) Includes 438,031 shares issuable upon the exercise of stock options, and 32,173 shares issuable upon the exercise of common stock purchase warrants that are exercisable within 60 days of November 30, 2012.

EQUITY COMPENSATION PLAN INFORMATION

The following table provides information as of September 30, 2012 with respect to shares of our Common Stock that may be issued under our equity compensation plans. On November 17, 2011, the Company effected a 1 for 10 reverse stock split. The share data in the table below are listed on a post-split basis.

	Equity Compensation Plan Information		
Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
Equity compensation plans approved by security holders(1)	1,659,594	$ 6.20	459,166
Equity compensation plans not approved by security holders (2)	251,200	$ 4.70	—
Total	1,910,794	$ 6.01	459,166

(1) Includes options outstanding representing 1,506,694 shares subject to the 2004 Equity Incentive Plan and 152,900 shares subject to the 2000 Option Plan. No shares are available for issuance under the 2000 option plan.

(2) Includes inducement options issued to newly hired employees upon the acquisition of Roche Madison in October 2011.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE.

As of September 30, 2012, a majority of the members of the Board are independent directors, as defined by the NASDAQ Marketplace Rules. The Board has determined that all of the Company's directors are independent, except Dr. Anzalone, the Company's Chief Executive Officer, and Dr. Doug Given, the brother of the Company's Chief Operating Officer. Non-employee directors do not receive consulting, legal or other fees from the Company, other than Board compensation.

Nanotope and Leonardo were co-founded by the Company's President and Chief Executive Officer, Dr. Christopher Anzalone, who beneficially owns approximately 14.2% and 9.4% of the outstanding voting securities of Nanotope and Leonardo, respectively. Dr. Anzalone does not hold options, warrants or any other rights to acquire securities of Nanotope or Leonardo. Dr. Anzalone has the right to appoint a representative to the Board of Directors of each Nanotope and Leonardo. Dr. Anzalone is serving as the President and Chief Executive Officer of Nanotope. Dr. Anzalone has not received any compensation for his work on behalf of Nanotope or Leonardo since joining the Company on December 1, 2007.

During fiscal 2012, a portion of Arrowhead employee salary costs, including Dr. Anzalone's salary and administrative overhead, was charged to Nanotope and Leonardo for management and administrative services provided by Arrowhead to Nanotope and Leonardo. During fiscal 2012, the charge for services provided to Nanotope and Leonardo were $198,269 and $239,783, respectively. In addition, during fiscal 2012, Arrowhead made cash advances to Nanotope of $475,000 and cash advances to Leonardo of $56,000. The amounts due from Nanotope have been fully reserved, and the operations of Nanotope have been suspended. Accordingly, future cash advances are expected to be minimal. The majority of the balance due Arrowhead from Leonardo is expected to be repaid in cash or converted to equity in fiscal 2013. In addition, Dr. Bruce Given, the Company's Chief Operating Officer, and CEO of Leonardo is the brother of Dr. Doug Given, a member of Arrowhead's Board of Directors. Dr. Doug Given has no financial interest in Leonardo.

In August 2010, the Company retained Mr. Vincent Anzalone, the brother of Arrowhead's Chief Executive Officer, as a consultant for the Company, focusing on business development and market analysis. Mr. Vincent Anzalone was paid $120,000 during the fiscal year ended September 30, 2011, and $120,000 during the fiscal year ended September 30, 2012. Mr. Vincent Anzalone joined the Company as an employee on September 24, 2012 at an annual salary of $130,000.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The Audit Committee regularly reviews and determines whether specific projects or expenditures with our independent auditors, Rose, Snyder & Jacobs (RS&J), may potentially affect their independence. The Audit Committee's policy is to pre-approve all audit and permissible non-audit services provided by RS&J. Pre-approval is generally provided by the Audit Committee for up to one year, detailed to the particular service or category of services to be rendered and is generally subject to a specific budget. The Audit Committee may also pre-approve additional services of specific engagements on a case-by-case basis. All engagements of our independent registered public accounting firm in 2012 and 2011 were pre-approved by the audit committee.

The following table sets forth the aggregate fees invoiced by RS&J for the fiscal years ended September 30, 2012, and September 30, 2011:

	Year Ended September 30,	
	2012	2011
Audit fees (1)	$159,065	$116,200
Audit-related fees (2)	42,459	16,250
Tax fees (3)	—	20,085
Total	$201,524	$152,435

(1) Fees invoiced by RS&J include year-end audit and quarterly reviews of Form 10-Q.
(2) Fees invoiced by RS&J related to Arrowhead Comfort Letter and Consents, and other agreed-upon procedures.
(3) This category consists of professional services rendered by RS&J for tax return preparation and consulting. The Company has retained another public accounting firm for tax preparation and consulting.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

The following documents are filed as part of this Annual Report on Form 10-K:

(1) Financial Statements.

See Index to Financial Statements and Schedule on page F-1.

(2) Financial Statement Schedules.

See Index to Financial Statements and Schedule on page F-1. All other schedules are omitted as the required information is not present or is not present in amounts sufficient to require submission of the schedule, or because the information required is included in the consolidated financial statements or notes thereto.

(3) Exhibits.

The following exhibits are filed (or incorporated by reference herein) as part of this Annual Report on Form 10-K:

Exhibit Number	Description	Incorporated by Reference Herein	
		Form	Date
2.1	Stock and Asset Purchase Agreement between Arrowhead Research Corporation and Roche entities, dated October 21, 2011†	Annual Report on Form 10-K for the fiscal year ended September 30, 2011, as Exhibit 2.1	December 20, 2011
3.1	Certificate of Incorporation of InterActive Group, Inc., a Delaware corporation, dated February 13, 2001	Schedule 14C, as Exhibit A	December 22, 2000
3.2	Certificate of Amendment to Certificate of Incorporation of InterActive Group, Inc. (effecting, among other things a change in the corporation's name to "Arrowhead Research Corporation"), filed with the Secretary of State of the State of Delaware on January 12, 2004	Schedule 14C, as Exhibit 1	December 22, 2003
3.3	Certificate of Amendment to Certificate of Incorporation of Arrowhead Research Corporation, dated January 25, 2005	Form 10-QSB for the quarter ended December 31, 2004, as Exhibit 3.4	February 11, 2005
3.4	Certificate of Amendment to Certificate of Incorporation of Arrowhead Research Corporation, dated October 13, 2009	Annual Report on Form 10-K for the fiscal year ended September 30, 2009, as Exhibit 3.4	December 22, 2009
3.5	Series A Certificate of Designations, dated October 25, 2011	Current Report on Form 8-K, as Exhibit 3.1	October 26, 2011
3.6	Certificate of Amendment to Certificate of Incorporation of Arrowhead Research Corporation, dated November 17, 2011	Current Report on Form 8-K, as Exhibit 3.1	November 17, 2011
3.7	Bylaws	Schedule 14C, as Exhibit B	December 22, 2000
3.8	Amendment No. 1 to the Bylaws of Arrowhead Research Corporation	Current Report on Form 8-K, as Exhibit 3.1	April 27, 2010
4.1	Form of Registration Rights Agreement, July and August 2009	Current Report on Form 8-K, as Exhibit 10.2	July 17, 2009
4.2	Form of Registration Rights Agreement, dated December 11, 2009	Annual Report on Form 10-K for the fiscal year ended September 30, 2009, as Exhibit 4.2	December 22, 2009
4.3	Form of Warrant to Purchase Shares of Common Stock expiring in July and August 2013	Current Report on Form 8-K, as Exhibit 10.2	August 26, 2008
4.4	Form of Common Stock Warrant expiring in September 2013	Current Report on Form 8-K, as Exhibit 10.2	September 11, 2008
4.5	Form of Warrant to Purchase Capital Stock expiring June 2014	Current Report on Form 8-K, as Exhibit 4.1	July 17, 2009
4.6	Form of Warrant to Purchase Capital Stock expiring December 2014	Annual Report on Form 10-K for the fiscal year ended September 30, 2009, as Exhibit 4.7	December 22, 2009
4.7	Form of Warrant to Purchase Common Stock expiring May 2017	Current Report on Form 8-K, as Exhibit 4.1	May 30, 2007

Exhibit Number	Description	Incorporated by Reference Herein	
		Form	Date
4.8	Form of Warrant to Purchase Common Stock, dated June 2010	Current Report on Form 8-K, as Exhibit 4.1	June 18, 2010
4.9	Form of Registration Rights Agreement between Arrowhead Research Corporation and Lincoln Park Capital Fund, LLC, dated October 20, 2011	Current Report on Form 8-K, as Exhibit 10.2	October 26, 2011
4.10	Form of Registration Rights Agreement between Arrowhead Research Corporation and Roche entities, dated October 21, 2011	Annual Report on Form 10-K for the fiscal year ended September 30, 2011, as Exhibit 4.10	December 20, 2011
4.11	Form of Warrant to Purchase Shares of Capital Stock of Arrowhead Research Corporation expiring September 16, 2015	Current Report on Form 8-K, as Exhibit 4.1	September 22, 2010
4.12	Form of Warrant to Purchase Shares of Common Stock Expiring August 13, 2016	Current Report on Form 8-K, as Exhibit 4.1	August 13, 2012
4.13	Form of Common Stock Certificate	Amendment No. 2 to Registration Statement on Form S-1, as Exhibit 4.7	September 11, 2009
4.14	Form of Series A Preferred Stock Certificate	Annual Report on Form 10-K for the fiscal year ended September 30, 2011, as Exhibit 4.13	December 20, 2011
10.1**	Arrowhead Research Corporation (fka InterActive, Inc.) 2000 Stock Option Plan	Schedule 14C, as Exhibit D	December 22, 2000
10.2**	Arrowhead Research Corporation 2004 Equity Incentive Plan, as amended	Schedule 14C, as Annex A	January 12, 2012
10.3**	Executive Incentive Plan, adopted December 12, 2006	Annual Report on Form 10-K for the fiscal year ended September 30, 2006, as Exhibit 10.11	December 14, 2006
10.4**	Compensation Policy for Non-Employee Directors, as amended	Annual Report on Form 10-K for the fiscal year ended September 30, 2006, as Exhibit 10.12	December 14, 2006
10.5**	Employment Agreement between Arrowhead and Dr. Christopher Anzalone, dated June 11, 2008	Current Report on Form 8-K, as Exhibit 10.1	June 13, 2008
10.6**	Amendment to Employment Agreement between Arrowhead and Dr. Christopher Anzalone, effective May 12, 2009	Annual Report on Form 10-K for the fiscal year ended September 30, 2009, as Exhibit 10.8	December 22, 2009
10.7	Insert Therapeutics, Inc. Amended and Restated Investors' Rights Agreement, dated April 17, 2008	Current Report on Form 8-K, as Exhibit 10.3	April 23, 2008
10.8	Form of Unsecured Convertible Promissory Note Agreement, dated November 26, 2008	Current Report on Form 8-K, as Exhibit 10.1	December 3, 2008
10.9	Platform Agreement by and between Calando Pharmaceuticals, Inc and Cerulean Pharma Inc., dated as of June 23, 2009 †	Form 10-Q for the quarter ended June 30, 2009, as Exhibit 10.1	August 10, 2009
10.10	IT-101 Agreement by and between Calando Pharmaceuticals, Inc and Cerulean Pharma, Inc., dated as of June 23, 2009†	Form 10-Q for the quarter ended June 30, 2009, as Exhibit 10.2	August 10, 2009
10.11	License and Enforcement Agreement between Unidym, Inc. and Samsung Electronics Co., Ltd., dated December 2010	Form 10-Q for the quarter ended December 31, 2010, as Exhibit 10.1	February 10, 2011

Exhibit Number	Description	Incorporated by Reference Herein	
		Form	Date
10.12	CNT Production Patent License Agreement between Unidym, Inc. and Samsung Electronics Co., Ltd., dated December 2010	Form 10-Q for the quarter ended December 31, 2010, as Exhibit 10.2	February 10, 2011
10.13	Intellectual Property Purchase and Business Cooperation Agreement between Unidym, Inc. and Samsung Electronics Co., Ltd., dated December 2010	Form 10-Q for the quarter ended December 31, 2010, as Exhibit 10.3	February 10, 2011
10.14	Patent and Technology License Agreement between Arrowhead Research Corporation and the Board of Regents of The University of Texas System, dated December 14, 2010	Form 10-Q for the quarter ended December 31, 2010, as Exhibit 10.4	February 10, 2011
10.15	Form of Series A Preferred Stock Purchase Agreement among Ablaris Therapeutics Inc. and certain investors, dated January 2011	Form 10-Q for the quarter ended March 31, 2011, as Exhibit 10.2	May 12, 2011
10.16	Stock Purchase Agreement between Arrowhead Research Corporation and Calando Pharmaceuticals, Inc., dated January 10, 2011	Form 10-Q for the quarter ended March 31, 2011, as Exhibit 10.1	May 12, 2011
10.17	Agreement and Plan of Merger among Wisepower Co., Ltd., Unicycle Acquisition Corp, Unidym, Inc. and Arrowhead Research Corporation, dated January 17, 2011	Current Report on Form 8-K, as Exhibit 10.1	January 21, 2011
10.18	Stock Purchase Agreement between Wisepower Co., Ltd. and Arrowhead Research Corporation, dated January 17, 2011	Current Report on Form 8-K, as Exhibit 10.2	January 21, 2011
10.19	Bond Purchase Agreement between Wisepower Co., Ltd. and Arrowhead Research Corporation, dated January 17, 2011	Current Report on Form 8-K, as Exhibit 10.3	January 21, 2011
10.20	Form of Subscription Agreement between Arrowhead Research Corporation and certain Investors, dated September 2011	Current Report on Form 8-K, as Exhibit 10.1	October 6, 2011
10.21	Form of Series A Subscription Agreement between Arrowhead Research Corporation and certain investors	Current Report on Form 8-K, as Exhibit 10.3	October 26, 2011
10.22	Form of Purchase Agreement between Arrowhead Research Corporation and Lincoln Park Capital Fund, LLC, dated October 20, 2011	Current Report on Form 8-K, as Exhibit 10.1	October 26, 2011
10.23	Form of Common Stock Subscription Agreement between Arrowhead Research Corporation certain Investors, dated October 21, 2011	Current Report on Form 8-K, as Exhibit 10.4	October 26, 2011
10.24	Non-Exclusive License Agreement between Arrowhead Research Corporation and Roche entities, dated October 21, 2011†	Annual Report on Form 10-K for the fiscal year ended September 30, 2011, as Exhibit 10.33	December 20, 2011
10.25	Form of Investor Subscription Agreement between Arrowhead Research Corporation and Lincoln Park Capital Fund, LLC, dated October 24, 2011	Current Report on Form 8-K, as Exhibit 10.1	October 27, 2011

Exhibit Number	Description	Incorporated by Reference Herein	
		Form	Date
10.26	License and Collaboration Agreement, dated July 8, 2007 †	Annual Report on Form 10-K for the fiscal year ended September 30, 2011, as Exhibit 10.35	December 20, 2011
10.27	Collaboration Agreement by and among Alnylam Pharmaceuticals, Inc. and F. Hofmann-La Roche Ltd and Hoffman-La Roche Inc., dated October 29, 2009 †	Annual Report on Form 10-K for the fiscal year ended September 30, 2011, as Exhibit 10.36	December 20, 2011
10.28	Office Lease Agreement	Quarterly Report on Form 10-Q, as Exhibit 10.1	May 8, 2012
10.29	Form of Securities Purchase Agreement between Arrowhead Research Corporation and certain Investors	Current Report on Form 8-K, as Exhibit 99.1	August 10, 2012
21.1	List of Subsidiaries*		
23.1	Consent of Independent Public Registered Accounting Firm*		
24.1	Power of Attorney (contained on signature page)		
31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002*		
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002*		
32.1	Certification by Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002*		
32.2	Certification by Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002*		
101.INS	XBRL Instance Document*		
101.SCH	XBRL Schema Document*		
101.CAL	XBRL Calculation Linkbase Document*		
101.LAB	XBRL Label Linkbase Document*		
101.PRE	XBRL Presentation Linkbase Document*		
101.DEF	XBRL Definition Linkbase Document*		

Pursuant to Rule 406T of Regulation S-T, the Interactive Data Files included in Exhibit 101 hereto are deemed not filed or a part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purposes of Section 18 of the Securities and Exchange Act of 1934, as amended, and otherwise are not subject to liability under those sections.

* Filed herewith

** Indicates compensation plan, contract or arrangement.

† Confidential treatment has been requested with respect to certain portions of this exhibit. Omitted portions have been filed separately with the Securities and Exchange Commission.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized, on this 28th day of December 2012.

ARROWHEAD RESEARCH CORPORATION

By: /s/ C HRISTOPHER A NZALONE
Christopher Anzalone
Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report on Form 10-K has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated:

Signature	Title	Date
/s/ C HRISTOPHER A NZALONE **Christopher Anzalone**	Chief Executive Officer, President and Director (Principal Executive Officer)	December 28, 2012
/s/ K ENNETH A. M YSZKOWSKI **Kenneth A. Myszkowski**	Chief Financial Officer (Principal Financial and Accounting Officer)	December 28, 2012
/s/ D OUGLASS G IVEN **Douglass Given**	Chairman of the Board of Directors	December 28, 2012
/s/ M AURO F ERRARI **Mauro Ferrari**	Director	December 28, 2012
/s/ E DWARD W. F RYKMAN **Edward W. Frykman**	Director	December 28, 2012
/s/ C HARLES P. M CKENNEY **Charles P. McKenney**	Director	December 28, 2012
/s/ M ICHAEL S. P ERRY **Michael S. Perry**	Director	December 28, 2012

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Arrowhead Research Corporation

We have audited the accompanying consolidated balance sheets of Arrowhead Research Corporation (a Delaware corporation) and Subsidiaries (the "Company") as of September 30, 2012 and 2011 and the related consolidated statements of operations, stockholders' equity and cash flows for the years ended September 30, 2012, and 2011 and for the period from May 7, 2003 (inception) through September 30, 2012. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Arrowhead Research Corporation and Subsidiaries as of September 30, 2012 and 2011, and the consolidated results of their operations and their cash flows for the years ended September 30, 2012 and 2011, and for the period from May 7, 2003 (inception) through September 30, 2012 in conformity with accounting principles generally accepted in the United States of America.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, the Company has incurred recurring net losses. This condition raises substantial doubt about the Company's ability to continue as a going concern. Management's plans regarding those matters also are described in Note 1. The accompanying consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ Rose, Snyder & Jacobs LLP

Encino, California

December 27, 2012

Arrowhead Research Corporation and Subsidiaries
(A Development Stage Company)
Consolidated Balance Sheets

	September 30, 2012	September 30, 2011
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	$ 3,377,288	$ 7,507,389
Trade receivable	9,375	—
Other receivables	9,930	1,608,382
Prepaid expenses and other current assets	618,130	110,818
Marketable securities	106,500	634,585
Note receivable, net	2,446,113	—
TOTAL CURRENT ASSETS	6,567,336	9,861,174
PROPERTY AND EQUIPMENT		
Computers, office equipment and furniture	323,376	285,266
Research equipment	3,319,027	3,515
Software	69,623	77,020
Leasehold improvements	2,749,409	—
	6,461,435	365,801
Less: Accumulated depreciation and amortization	(1,565,783)	(340,364)
PROPERTY AND EQUIPMENT, NET	4,895,652	25,437
OTHER ASSETS		
Patents and other intangible assets, net	4,784,569	1,731,211
Note receivable, net	—	2,272,868
Investment in Nanotope Inc., equity basis	—	1,649,748
Investment in Leonardo Biosystems Inc., at cost	—	187,000
Derivative asset and other non-current assets	280,261	161,125
TOTAL OTHER ASSETS	5,064,830	6,001,952
TOTAL ASSETS	**$ 16,527,818**	**$ 15,888,563**
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES		
Accounts payable	$ 877,986	$ 576,809
Accrued expenses	730,775	864,511
Accrued payroll and benefits	1,127,219	195,649
Deferred revenue	37,500	—
Derivative liabilities	647,213	944,980
Capital lease obligation	214,801	—
Other current liabilities	1,692,394	—
TOTAL CURRENT LIABILITIES	5,327,888	2,581,949
LONG-TERM LIABILITIES		
Note payable, net of current portion	839,421	606,786
Capital lease obligation, net of current portion	1,282,458	—
Other non-current liabilities	269,142	135,660
TOTAL LONG-TERM LIABILITIES	2,391,021	742,446
Commitments and contingencies		
STOCKHOLDERS' EQUITY		
Arrowhead Research Corporation stockholders' equity:		
Preferred stock, $0.001 par value; 5,000,000 shares authorized; no shares issued or outstanding	—	—
Common stock, $ 0.001 par value; 145,000,000 shares authorized; 13,579,185 and 8,642,286 shares issued and outstanding as of September 30, 2012 and September 30, 2011, respectively	108,354	86,423
Additional paid-in capital	145,917,968	127,476,435
Subscription receivable	(1,016,000)	(900,000)
Accumulated deficit during the development stage	(134,997,680)	(113,871,752)
Total Arrowhead Research Corporation stockholders' equity	10,012,642	12,791,106
Noncontrolling interest	(1,203,733)	(226,938)
TOTAL STOCKHOLDERS' EQUITY	8,808,909	12,564,168
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	**$ 16,527,818**	**$ 15,888,563**

The accompanying notes are an integral part of these consolidated financial statements.

Arrowhead Research Corporation and Subsidiaries
(A Development Stage Company)
Consolidated Statements of Operations

	Year Ended September 30, 2012	2011	May 7, 2003 (Inception) to September 30, 2012
REVENUE	**$ 146,875**	**$ 296,139**	**$ 4,138,834**
OPERATING EXPENSES			
Salaries and payroll-related costs	6,414,921	1,408,366	26,392,130
General and administrative expenses	6,439,323	3,795,380	31,353,215
Research and development	5,391,463	3,277,760	42,618,748
Stock-based compensation	1,241,404	1,376,921	13,581,468
Depreciation and amortization	1,748,975	267,978	7,409,286
TOTAL OPERATING EXPENSES	**21,236,086**	**10,126,405**	**121,354,847**
OPERATING LOSS	(21,089,211)	(9,830,266)	(117,216,013)
OTHER INCOME (EXPENSE)			
Equity in income (loss) of unconsolidated affiliates	(240,154)	(163,180)	(963,407)
Impairment of investment in unconsolidated affiliates	(1,642,775)	—	(1,642,775)
Gain on purchase of Roche Madison	1,576,107	—	1,576,107
Loss on sale of property and equipment, net	(1,079,377)	—	(1,206,465)
Realized and unrealized gain (loss) on marketable securities	(58,091)	(261,219)	62,954
Interest income (expense), net	35,966	86,530	2,750,444
Change in value of derivatives	386,892	1,133,127	3,281,404
Gain on sale of stock in subsidiary	—	—	2,292,800
Other income	—	250,000	250,000
TOTAL OTHER INCOME (EXPENSE)	**(1,021,432)**	**1,045,258**	**6,401,062**
LOSS FROM CONTINUING OPERATIONS BEFORE INCOME TAXES	**(22,110,643)**	**(8,785,008)**	**(110,814,951)**
Provision for income taxes	—	—	—
LOSS FROM CONTINUING OPERATIONS	**(22,110,643)**	**(8,785,008)**	**(110,814,951)**
Income (loss) from discontinued operations	(80)	1,373,396	(47,546,642)
Gain on disposal of discontinued operations	—	3,919,213	4,708,588
NET INCOME (LOSS) FROM DISCONTINUED OPERATIONS	**(80)**	**5,292,609**	**(42,838,054)**
NET LOSS	**(22,110,723)**	**(3,492,399)**	**(153,653,005)**
Net (income) loss attributable to noncontrolling interests	984,795	363,514	18,819,285
NET LOSS ATTRIBUTABLE TO ARROWHEAD	**$(21,125,928)**	**$ (3,128,885)**	**$ (134,833,720)**
Earnings per share—basic and diluted:			
Loss from continuing operations attributable to Arrowhead common shareholders	$ (1.90)	$ (1.18)	
Loss from discontinued operations attributable to Arrowhead common shareholders	—	0.74	
Net loss attributable to Arrowhead shareholders	$ (1.90)	$ (0.44)	
Weighted average shares outstanding	11,129,766	7,181,121	

The accompanying notes are an integral part of these consolidated financial statements.

Arrowhead Research Corporation and Subsidiaries
(A Development Stage Company)
Consolidated Statement of Stockholders' Equity
From inception to September 30, 2012

	Common Stock		Preferred Stock		Additional Paid-in Capital	Subscription Receivable	Accumulated Deficit during the Development Stage	Noncontrolling interest	Totals
	Shares	Amount	Shares	Amount					
Initial Issuance of Stock:									
Common stock & warrants issued for cash @ $0.01 per unit	300,000	3,000	—	—	—	—	—	—	3,000
Common stock & warrants issued for cash @ $10.00 per unit	168,000	1,680	—	—	1,678,320	—	—	—	1,680,000
Stock issuance cost charged to additional paid-in capital	—	—	—	—	(168,000)	—	—	—	(168,000)
Net loss for period from inception to September 30, 2003	—	—	—	—	—	—	(95,238)	—	(95,238)
Balance at September 30, 2003	**468,000**	**4,680**	**—**	**—**	**1,510,320**	**—**	**(95,238)**	**—**	**1,419,762**
Exercise of stock options	7,500	75	—	—	14,925	—	—	—	15,000
Common stock & warrants issued for cash @ $10.00 per unit	47,500	475	—	—	474,525	—	—	—	475,000
Common stock & warrants issued for marketable securities @ $10.00 per unit	50,000	500	—	—	499,500	—	—	—	500,000
Stock issuance cost charged to additional paid-in capital	—	—	—	—	(96,500)	—	—	—	(96,500)
Common stock and warrants issued for cash @ $15.00 per unit	660,879	6,609	—	—	9,906,573	—	—	—	9,913,182
Common stock issued in reverse acquisition	70,553	706	—	—	(151,175)	—	—	—	(150,469)
Common stock issued as a gift for $10.90 per share	15,000	163	—	—	162,587	—	—	—	162,750
Common stock and warrants issued as stock issuance cost @ $15.00 per unit	35,623	356	—	—	533,988	—	—	—	534,344
Stock issuance cost charged to additional paid-in capital	—	—	—	—	(991,318)	—	—	—	(991,318)
Exercise of stock option @ $2.00 per share	7,500	75	—	—	14,925	—	—	—	15,000
Exercise of stock options @ $10.00 per share	600	6	—	—	5,994	—	—	—	6,000
Stock-based compensation	—	—	—	—	175,653	—	—	—	175,653
Net loss for the year ended September 30, 2004	—	—	—	—	—	—	(2,528,954)	1,777,699	(751,255)
Balance at September 30, 2004	**1,363,155**	**13,645**	**—**	**—**	**12,059,997**	**—**	**(2,624,192)**	**1,777,699**	**11,227,149**
Exercise of warrants @ $15.00 per share	1,381,289	13,813	—	—	20,705,522	—	—	—	20,719,335
Exercise of stock options @ $10.00 per share	2,500	25	—	—	24,975	—	—	—	25,000
Common stock issued to purchase Insert Therapeutics share @ $39.80 per share	50,226	502	—	—	1,999,498	—	—		2,000,000
Common stock issued for services	1,250	12	—	—	49,988	—	—	—	50,000
Stock-based compensation	—	—	—	—	508,513	—	—	—	508,513
Change in percentage of ownership in subsidiary	—	—	—	—	230,087	—	—	—	230,087
Net loss for the year ended September 30, 2005	—	—	—	—	—	—	(6,854,918)	121,491	(6,733,427)
Balance at September 30, 2005	**2,798,419**	**27,997**	**—**	**—**	**35,578,580**	**—**	**(9,479,110)**	**1,899,190**	**28,026,657**
Exercise of stock options	11,579	116	—	—	341,421	—	—	—	341,537
Common stock issued @ $48.80 per share	20,485	205	—	—	999,795	—	—	—	1,000,000
Common stock issued @ $38.40 per share	1,500	15	—	—	57,585	—	—	—	57,600
Common stock issued @									

$35.00 per share	559,000	5,590	—	—	19,539,410	—	—	—	19,545,000
Common stock issued @ $59.10 per share	2,536	25	—	—	149,975	—	—	—	150,000
Common stock issued to purchase Calando Pharmaceuticals, Inc. @ $51.70 per share	20,838	208	—	—	1,077,125	—	—	—	1,077,333
Stock-based compensation	—	—	—	—	1,369,478	—	—	—	1,369,478
Net loss for the year ended September 30, 2006	—	—	—	—	—	—	(18,997,209)	(964,752)	(19,961,961)
Balance at September 30, 2006	**3,414,359**	**34,156**	**—**	**—**	**59,113,369**	**—**	**(28,476,319)**	**934,438**	**31,605,644**
Exercise of stock options	18,616	186	—	—	434,541	—	—	—	434,727
Common stock issued @ $57.80 per share, net	284,945	2,849	—	—	15,149,366	—	—	—	15,152,215
Arrowhead's increase in proportionate share of Insert Therapeutics' equity	—	—	—	—	2,401,394	—	—	—	2,401,394
Common stock issued for purchase of Carbon Nanotechnologies, Inc. @ $37.70 per share	143,122	1,431	—	—	5,398,569	—	—	—	5,400,000
Stock-based compensation	—	—	—	—	2,175,544	—	—	—	2,175,544
Net loss for the year ended September 30, 2007	—	—	—	—	—	—	(29,931,118)	(781,829)	(30,712,947)
Balance at September 30, 2007	**3,861,042**	**38,622**	**—**	**—**	**84,672,783**	**—**	**(58,407,437)**	**152,609**	**26,456,577**
Exercise of stock options	10,536	106	—	—	289,921	—	—	—	290,027
Common stock issued at approximately $18.00 per share, net	386,399	3,867	—	—	6,956,718	—	—	—	6,960,585
Arrowhead's increase in proportionate share of Unidym's equity	—	—	—	—	1,720,962	—	—	—	1,720,962
Common stock issued @ $27.20 per share to Rice University	5,000	50	—	—	135,950	—	—	—	136,000
Common stock issued @ $28.30 per share to purchase shares of Unidym, Inc.	7,055	71	—	—	199,929	—	—	—	200,000
Common stock issued @ $29.50per share to purchase MASA Energy, LLC	10,505	105	—	—	309,895	—	—	—	310,000
Common stock issued @ $21.90 per share to Unidym for the acquisition of Nanoconduction	11,416	114	—	—	249,886	—	—	—	250,000
Common stock issued @ $21.80 per share	1,500	15	—	—	32,685	—	—	—	32,700
Stock-based compensation	—	—	—	—	3,187,397	—	—	—	3,187,397
Net loss for the year ended September 30, 2008	—	—	—	—	—	—	(27,089,030)	(152,609)	(27,241,639)
Balance at September 30, 2008	**4,293,452**	**42,950**	**—**	**—**	**97,756,126**	**—**	**(85,496,467)**	**—**	**12,302,609**
Common Stock issued @ $5.50 per share to Unidym stockholder in exchange for Unidym's shares	205,839	2,059	—	—	1,131,617	—	—	—	1,133,676
Common Stock issued @ $5.20 per share to TEL Ventures in exchange for Unidym's shares	222,222	2,222	—	—	1,156,111	—	—	—	1,158,333
Reclassification of former Unidym mezzanine debt to equity	—	—	—	—	2,000,000	—	—	—	2,000,000
Arrowhead's increase in proportionate share of Calando's equity	—	—	—	—	2,120,250	—	—	—	2,120,250
Common stock issued @ $3.00 per share	919,664	9,197	—	—	2,749,796	—	—	—	2,758,993
Change in percentage ownership in subsidiary	—	—	—	—	16,297	—	—	—	16,297
Stock-based compensation	—	—	—	—	2,676,170	—	—	—	2,676,170
Issuance of Preferred Stock for Subscription in									

Unidym	—	—	—	—	300,000	(300,000)	—	—	—
Amortization of discount on Unidym Series D Preferred Stock	—	—	—	—	163,960	—	(163,960)	—	—
Net loss for the year ended September 30, 2009	—	—	—	—	—	—	(19,308,392)	—	(19,308,392)
Balance at September 30, 2009	**5,641,177**	**56,428**	**—**	**—**	**110,070,327**	**(300,000)**	**(104,968,819)**	**—**	**4,857,937**
Exercise of stock options	688	7	—	—	7,624	—	—	—	7,631
Issuance of Preferred Stock for Subscription in Unidym	—	—	—	—	—	300,000	—	—	300,000
Issuance of Unidym's common stock to minority shareholders	—	—	—	—	245,345	—	—	54,655	300,000
Common stock issued @ $6.30 per share	508,343	5,083	—	—	3,217,813	—	—	—	3,222,896
Common stock issued @ $13.12 per share	659,299	6,593	—	—	3,692,078	—	—	—	3,698,671
Common Stock issued to Calando stockholders in exchange for Calando's shares	122,000	1,220	—	—	(160,667)	—	—	159,447	—
Common Stock issued to Unidym stockholders in exchange for Unidym's shares	15,318	153	—	—	(1,435)	—	—	1,282	—
Stock-based compensation	—	—	—	—	1,582,149	—	—	—	1,582,149
Exercise of warrants	225,189	2,250	—	—	1,063,600	—	—	200	1,066,050
Net loss for the year ended September 30, 2010	—	—	—	—	—	—	(5,774,048)	(1,182,990)	(6,957,038)
Balance at September 30, 2010	**7,172,014**	**71,734**	**—**	**—**	**119,716,834**	**—**	**(110,742,867)**	**(967,406)**	**8,078,295**
Exercise of warrants	8,656	87	—	—	43,192	—	—	—	43,279
Exercise of stock options	2,700	27	—	—	13,857	—	—	—	13,884
Divestiture of Unidym	—	—	—	—	—	—	—	254,275	254,275
Issuance of preferred stock in subsidiary	—	—	—	—	1,618,509	—	—	—	1,618,509
Change in percentage of ownership in subsidiary	—	—	—	—	(849,707)	—	—	849,707	—
Stock-based compensation	—	—	—	—	1,404,640	—	—	—	1,404,640
Common stock issued @ $3.80 per share	1,458,917	14,574	—	—	4,629,110	—	—	—	4,643,684
Issuance of Common Stock for Subscription			—	—	900,000	(900,000)			—
Net loss for the year ended September 30, 2011	—	—	—	—	—	—	(3,128,885)	(363,514)	(3,492,399)
Balance at September 30, 2011	**8,642,286**	**$ 86,422**	**—**	**$ —**	**$ 127,476,435**	**$ (900,000)**	**$ (113,871,752)**	**$ (226,938)**	**12,564,167**
Exercise of stock options	4,583	45	—	—	23,788	—	—	—	23,833
Stock-based compensation	—	—	—	—	1,241,404	—	—	—	1,241,404
Common stock issued @ $3.80 per share	138,158	1,382	—	—	523,618	(100,000)	—	—	425,000
Common stock issued @ $3.70 per share	675,000	6,750	—	—	2,241,000		—	—	2,247,750
Common stock issued @ $4.00 per share	100,000	1,000	—	—	399,000	—	—	—	400,000
Common stock issued @ $6.23 per share	83,211	83	—	—	499,918	—	—	—	500,001
Common stock issued @ $5.11 per share	97,831	98	—	—	499,904	—	—	—	500,002
Common stock issued @ $2.76 per share	2,260,869	2,261	—	—	5,809,979	(16,000)			5,796,240
Common stock issued under Committed Capital Agreement	68,926	689	—	—	(689)	—	—	—	—
Common stock issued in acquisitions	1,217,159	9,332	—	—	6,138,498	—	—	—	6,147,830
Fractional shares redeemed in reverse stock split	(131)	—	—	—	—	—	—	—	—
Preferred stock issued @ $1,000 per share	—	—	1,015	1	1,014,999	—	—	—	1,015,000
Preferred stock converted to common stock	275,782	276	(1,015)	(1)	(275)	—	—	—	—
Exercise of Calando stock options	—	—	—	—	—	—	—	8,000	8,000
Exercise of warrants	15,511	16	—	—	50,390	—	—	—	50,406
Net loss for the year ended September 30, 2012	—	—	—	—	—	—	(21,125,928)	(984,795)	(22,110,723)
Balance at Septemeber 30,									

2012	**13,579,185**	**$108,354**	**—**	**$ —**	**$ 145,917,968**	**$ (1,016,000)**	**$ (134,997,680)**	**$ (1,203,733)**	**$ 8,808,910**

The accompanying notes are an integral part of these consolidated financial statements.

Arrowhead Research Corporation and Subsidiaries
(A Development Stage Company)
Consolidated Statements of Cash Flows

	Year ended September 30, 2012	2011	May 7, 2003 (Date of inception) to September 30, 2012
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net income (loss)	$(22,110,723)	$(3,492,399)	$ (153,653,005)
Net (income) loss attributable to noncontrolling interests	984,795	363,514	18,819,285
Net income (loss) attributable to Arrowhead	(21,125,928)	(3,128,885)	(134,833,720)
(Income) loss from discontinued operations	80	(5,292,609)	42,838,054
Realized and unrealized (gain) loss on investments	58,091	261,218	(762,954)
Charge for bad debt allowance	2,497,300	—	2,497,300
(Gain) loss from sale of subsidiary	—	—	(306,344)
(Gain) loss on purchase of Roche Madison	(1,576,107)	—	(1,576,107)
Loss on disposal of fixed assets	1,079,377	—	1,206,465
Stock issued for professional services	—	193,885	741,632
Change in value of derivatives	(386,892)	(1,133,127)	(3,281,404)
Purchased in-process research and development	—	—	15,851,555
Stock-based compensation	1,241,404	1,376,921	13,581,468
Depreciation and amortization	1,748,975	267,978	7,409,286
Amortization (accretion) of note discounts, net	9,390	(7,938)	1,452
Gain on sale of stock in subsidiary	—	—	(2,292,800)
Non-cash impairment expense	1,642,775	—	1,642,775
Equity in (income)loss of unconsolidated affiliates	240,154	163,180	963,407
Noncontrolling interest	(984,795)	(363,514)	(18,819,285)
Changes in operating assets and liabilities:			
Receivables	162,855	—	100,040
Other receivables	(938,179)	(736,253)	(2,543,142)
Prepaid expenses	(338,531)	99,005	(481,099)
Other current assets	(6,853)	18,473	(103,213)
Deposits	(23,747)	—	(60,542)
Accounts payable	291,876	157,079	498,310
Accrued expenses	186,369	452,843	720,909
Other liabilities	882,296	15,751	1,130,161
NET CASH USED IN OPERATING ACTIVITIES OF CONTINUING OPERATIONS	(15,340,090)	(7,655,993)	(75,877,796)
CASH FLOWS FROM INVESTING ACTIVITIES OF CONTINUING OPERATIONS:			
Purchase of property and equipment	(479,710)	(9,674)	(4,045,309)
Proceeds from sale of investments	509,009	1,534,687	3,313,609
Proceeds from sale of fixed assets	290,312	—	432,687
Cash transferred in acquisition/divestitures	121,033	(1,700,398)	(1,579,365)
Purchase of marketable securities—US Treasury Bills	—	—	(18,575,915)
Purchase of MASA Energy, LLC	—	—	(250,000)
Minority equity investment	—	—	(2,000,000)
Cash paid for interest in Insert	—	—	(10,150,000)
Cash obtained from interest in Insert	—	—	10,529,594
Proceeds from sale of marketable securities—US Treasury Bills	—	—	18,888,265
Proceeds from sale of subsidiaries	—	—	359,375
Payment for patents	—	—	(303,440)
Restricted cash	—	—	50,773
NET CASH PROVIDED BY (USED IN) INVESTING ACTIVITIES OF CONTINUING OPERATIONS	440,644	(175,385)	(3,329,726)
CASH FLOWS FROM FINANCING ACTIVITIES OF CONTINUING OPERATIONS:			
Principal payments on capital leases	(196,606)	—	(196,606)
Proceeds from issuance of Calando debt	—	—	2,516,467
Proceeds from issuance of stock in subsidiary	8,000	1,718,932	20,902,100
Proceeds from issuance of common stock and warrants, net	10,958,231	4,507,389	106,253,011
NET CASH PROVIDED BY FINANCING ACTIVITIES OF CONTINUING OPERATIONS	10,769,625	6,226,321	129,474,972
Cash flows from discontinued operations:			
Operating cash flows	(280)	2,265,284	(46,003,787)
Investing cash flows	—	—	790,625
Financing cash flows	—	—	(1,677,000)

Net cash provided by (used in) discontinued operations:	(280)	2,265,284	(46,890,162)
NET INCREASE(DECREASE) IN CASH	(4,130,101)	660,227	3,377,288
CASH AT BEGINNING OF PERIOD	7,507,389	6,847,162	—
CASH AT END OF PERIOD	$ 3,377,288	$ 7,507,389	$ 3,377,288
Supplementary disclosures:			
Interest paid	$ 46,269	$ 105,000	$ 280,688
Taxes paid	$ —	$ 742,500	$ 742,500

The accompanying notes are an integral part of these consolidated financial statements.

SUPPLEMENTARY NON CASH TRANSACTIONS

All Arrowhead share amounts have been adjusted to reflect the 1 for 10 reverse stock split effected on November 17, 2011.

On March 23, 2005, Arrowhead purchased 7,375,000 shares of Insert Therapeutics, Inc. common stock from two minority stockholders of Insert for 50,226 newly issued shares of Arrowhead Common Stock valued at $2,000,000 based on the closing market price of Arrowhead Common Stock on NASDAQ on the date of the closing.

On March 31, 2006, Arrowhead purchased 964,000 shares of Calando Pharmaceuticals, Inc. common stock from minority stockholders of Calando for $1,928,000 consisting of 20,838 newly issued shares of Arrowhead Common Stock valued at $1,077,333 plus $850,667 in cash. The 20,838 shares of Arrowhead Common Stock were valued based on the average closing price of Arrowhead's Common Stock on NASDAQ the ten trading days immediately prior to the date of the closing.

On April 20, 2007, Arrowhead purchased the Series E Preferred Stock of Carbon Nanotechnologies, Inc. in exchange for 143,122 shares of Arrowhead Common Stock with an estimated fair market value of $5,400,000 based on the average closing price of Arrowhead's Common Stock on NASDAQ the ten trading days immediately prior to March 24, 2007, as set forth in the Agreement and Plan of Merger among Unidym, Carbon Nanotechnologies, Inc., Arrowhead, and others.

On April 23, 2008, Arrowhead purchased 200,000 shares of the Common Stock of Unidym Inc., in exchange for 7,054 shares of Arrowhead Common Stock with an estimated fair market value of $200,000 based on the average closing price of Arrowhead's Common Stock on NASDAQ the ten trading days immediately prior to the date of the closing.

On April 29, 2008, Arrowhead purchased all of the membership units of MASA Energy, LLC for $560,000. The purchase price consisted of 10,504 shares of Arrowhead Common Stock with an estimated fair market value of $310,000 based on the average closing price of Arrowhead's Common Stock on NASDAQ the ten trading days immediately prior to the date of the closing, plus $250,000 in cash.

On August 8, 2008, Unidym acquired all of the outstanding stock of Nanoconduction, Inc. in exchange for 11,411 shares of Arrowhead stock with an estimated fair market value of $250,000.

On June 11, 2009, Arrowhead issued 132,462 shares of Common Stock with an estimated fair market value of $688,802 in exchange for an equal number of Series A Preferred Stock of Unidym, with minority stockholders of Unidym.

On June 25, 2009, Arrowhead issued 194,444 shares of Common Stock with an estimated fair market value of $972,222 in exchange for an equal number of Series C Preferred Stock of Unidym, with a minority stockholder of Unidym.

On September 22, 2009, Arrowhead issued 9,149 shares of Common Stock with an estimated fair market value of $46,662 in exchange for an equal number of Series A Preferred Stock of Unidym with a minority stockholder of Unidym.

On September 28, 2009, Arrowhead issued 64,227 shares of Common Stock with an estimated fair market value of $398,209 in exchange for 5,574 shares of Series A Preferred Stock and 636,699 shares of Series C Preferred Stock of Unidym, with several minority stockholders of Unidym.

On September 30, 2009, Arrowhead issued 27,777 shares of Common Stock with an estimated fair market value of $186,111 in exchange for an equal number of Series C-1 Preferred Stock of Unidym, with a minority stockholder of Unidym.

In October and November 2009, Arrowhead issued 15,317 shares of Common Stock with an estimated fair market value of $47,485 in exchange for an equal number of shares of Series C Preferred Stock of Unidym, with several minority stockholders of Unidym.

In October and November 2009, Arrowhead issued 114,000 shares of Common Stock with an estimated fair market value of $706,800 in exchange for 2,850,000 shares of Calando's common stock, with several minority stockholders of Calando. In conjunction with the exchange, Arrowhead also issued 24,000 Warrants to purchase Arrowhead Common Stock in exchange for 600,000 Warrants to purchase Calando common stock.

In February 2010, Arrowhead issued 8,000 shares of Common Stock and 2,400 warrants to purchase Arrowhead Common Stock, at an exercise price of $5.00, to several Calando shareholders, in exchange for 200,000 shares of Calando common stock and 60,000 warrants to purchase Calando common stock.

In March 2010, a warrant holder exercised 24,788 warrants to purchase Arrowhead Common Stock, in a cashless exercise, whereby Arrowhead issued to the warrant holder 12,870 shares of Arrowhead Common Stock.

In September 2010, Arrowhead issued warrants to purchase 390,625 shares of Arrowhead Common Stock, at an exercise price of $5.00, to two Calando shareholders, in exchange for 1,562.5 shares of Series A Preferred Stock of Calando Pharmaceuticals, Inc.

On October 21, 2011, Arrowhead entered into a Stock and Asset Purchase Agreement whereby in acquired all of the outstanding common stock of Roche Madison Inc. and certain intellectual property rights in exchange for 1,288,158 shares of Arrowhead Common Stock, a promissory note of $50,000, and potential contingent consideration based on the achievement of certain regulatory milestones, and sales milestones and royalty payments after drug approval.

On April 5, 2012, Arrowhead entered into a Stock Purchase Agreement whereby it acquired all of the outstanding common stock of Alvos Therapeutics, Inc. for 315,457 shares of Arrowhead Common Stock and potential contingent consideration based on the achievement of certain clinical, regulatory and sales milestones.

Unless otherwise noted, (1) the term "Arrowhead" refers to Arrowhead Research Corporation, a Delaware corporation, (2) the terms the "Company," "we," "us," and "our," refer to the ongoing business operations of Arrowhead and its Subsidiaries, whether conducted through Arrowhead or a subsidiary of Arrowhead, (3) the term "Subsidiaries" refers collectively to Arrowhead Madison Inc. ("Madison") , Alvos Therapeutics, Inc. ("Alvos"), Calando Pharmaceuticals, Inc. ("Calando"), Ablaris Therapeutics, Inc. ("Ablaris"), Agonn Systems, Inc. ("Agonn"), and Tego Biosciences Corporation ("Tego") as well as our former subsidiary, Unidym, Inc. ("Unidym"), which was divested in January 2011, (4) the term "Minority Investments" refers collectively to Nanotope, Inc. ("Nanotope") and Leonardo Biosystems, Inc. ("Leonardo") in which the company holds a less than majority ownership position, and (5) the term "Common Stock" refers to Arrowhead's Common Stock and the term "stockholder(s)" refers to the holders of Arrowhead Common Stock. All Arrowhead share and per share data have been adjusted to reflect a one for ten reverse stock split effected on November 17, 2011.

NOTE 1. *ORGANIZATION AND SIGNIFICANT ACCOUNTING POLICIES*

Nature of Business and Going Concern

Arrowhead Research Corporation is a clinical stage targeted therapeutics company with development programs in oncology, obesity, and chronic hepatitis B virus infection. Our novel delivery technologies have the potential to enable revolutionary new classes of drugs, such as RNAi interference and peptide drug conjugates, for a broad range of unmet medical needs. Our pipeline of targeted therapeutics are designed to have increased effectiveness through guided delivery and decreased toxicity through reduction of side effects associated with unwanted exposure in healthy cells and tissues.

Liquidity

Arrowhead has historically financed its operations through the sale of securities of Arrowhead and its Subsidiaries. Development activities have required significant capital investment since the Company's inception and we expect our current portfolio companies to continue to require cash investment in fiscal 2013 and beyond to continue development.

At September 30, 2012, the Company had $3.4 million in cash to fund operations. During the year ended September 30, 2012, the Company's cash position decreased by $4.1 million. The Company received cash from the issuance of equity of $11.0 million, cash from the sale of its holdings of stock in Wisepower Co. Ltd of $0.5 million, and cash collections from licensing revenue of $0.2 million. The company had cash outflow of $16.0 million related to its continuing operating activities and capital expenditures of $0.5 million.

As a result of the sale of the Company's subsidiary, Unidym, in January 2011, the Company received $2.5 million in stock of the acquirer, Wisepower Co. Ltd. ("Wisepower") and a $2.5 million convertible bond from Wisepower, of which approximately $200,000 is owed to a third party who was a minority investor in Unidym. Following the divestiture, through the quarter ended December 31, 2011, the Company liquidated its position in Wisepower stock. The convertible bond has a face value of $2.5 million and can be redeemed for cash on January 17, 2013, and at which time could represent an additional source of liquidity for the company. In September 2011, the Company entered into an equity line facility whereby it has the ability to draw capital up to $15 million, subject to certain provisions, including maintaining a minimum stock price of $2.00 per share. Through September 30, 2012, the Company has drawn $1 million from this facility. In December 2012, the Company sold 1.9 million units at a price of $2.26 per unit in a public offering. Each unit consisted of one share of Common Stock and a warrant to purchase 0.5 share of Common Stock, exercisable at $2.20. Gross proceeds from the offering were $4.3 million, which included a $500,000 promissory note due February 1, 2013.

On October 21, 2011, Arrowhead completed the acquisition of certain RNAi assets from Hoffmann-La Roche Inc. and F. Hoffmann-La Roche Ltd., including intellectual property and a research and development facility in Madison, Wisconsin. At the time of the acquisition, the facility had 41 employees. Due to the costs associated with maintaining and operating the facility, including personnel costs, rent, research and development expenses, and other costs, cash expenses have increased, and it is expected that the Company will incur higher cash expenses during the remainder of 2012 and beyond, relative to periods prior to the acquisition, as the Company accelerates its preclinical and clinical development efforts.

Going Concern

The accompanying consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities and commitments in the normal course of business. The Company has experienced negative cash flows from operations since inception and has an accumulated deficit of approximately $135 million. The Company has funded its activities to date almost exclusively from equity financings.

The Company plans to fund its development activities as cash resources allow. However, the company is dependent on additional equity financing and/or the signing of collaboration/partnership arrangements to supply cash for future development. The Company cannot be certain that such funding will be available on acceptable terms or available at all. To the extent that the Company raises additional funds by issuing equity securities, its stockholders may experience significant dilution. If the Company is unable to raise funds when required or on acceptable terms, it may have to delay, scale back, or discontinue the development and/or commercialization of one or more product candidates, or relinquish or otherwise dispose of rights to technologies, product candidates, or products that it would otherwise seek to develop or commercialize itself and possibly cease operations.

In addition to the normal risks associated with a new business venture, there can be no assurance that the Company's research and development will be successfully completed or that any product will be approved or commercially viable. The Company is subject to risks common to companies in the biotechnology industry including, but not limited to, dependence on collaborative arrangements, development by the Company or its competitors of new technological innovations, dependence on key personnel, protection of proprietary technology, and compliance with Food and Drug Administration ("FDA") and other governmental regulations and approval requirements.

These matters raise substantial doubt about the Company's ability to continue as a going concern. These financial statements were prepared under the assumption that the Company will continue as a going concern and do not include any adjustments that might result from the outcome of that uncertainty.

Although the Company has sources of liquidity, as described above, the Company anticipates that further equity financings, and/or asset sales and license agreements will be necessary to continue to fund operations in the future.

Summary of Significant Accounting Policies

Principles of Consolidation—The consolidated financial statements include the accounts of Arrowhead and its Subsidiaries, Arrowhead Madison, Alvos, Calando, Ablaris, Tego, Agonn, and until its disposition in January 2011, Unidym. Prior to April 2008, Arrowhead's Subsidiaries included Insert Therapeutics, Inc. ("Insert"), which was merged with Calando in April 2008. The merged entity is majority-owned by Arrowhead and continues to operate under the name of Calando. In January 2011, Arrowhead sold its interests in Unidym to Wisepower, and in December 2009, Tego completed a sale of its assets to Luna Innovations, Inc. Unidym and Tego results are included in the Income (Loss) from Discontinued Operations. Income (Loss) from Discontinued Operations also includes Aonex Technologies, Inc., sold in May 2008, and Nanotechnica, Inc., dissolved in June 2005. All significant intercompany accounts and transactions are eliminated in consolidation, and noncontrolling interests are accounted for in the Company's financial statements.

Basis of Presentation and Use of Estimates—The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the accompanying financial statements. Significant estimates made in preparing these financial statements include valuing the stock of the Subsidiaries, assumptions to calculate stock-based compensation expense, allowance for doubtful accounts, deferred tax asset valuation allowance, derivative assets and liabilities, noncontrolling interest and useful lives for depreciable and amortizable assets. Actual results could differ from those estimates. Additionally, certain reclassifications have been made to prior period financial statements to conform to the current period presentation. In the opinion of management, all adjustments, including normal recurring accruals considered necessary for a fair presentation, have been included.

Cash and Cash Equivalents—The Company considers all liquid debt instruments purchased with a maturity of three months or less to be cash equivalents.

Concentration of Credit Risk—The Company maintains checking accounts for Arrowhead and separate accounts for each Subsidiary at any of three financial institutions. These accounts are insured by the Federal Deposit Insurance Corporation (FDIC) for up to $250,000 per account. Management believes the Company is not exposed to significant credit risk due to the financial position of the depository institution in which these deposits are held.

Property and Equipment—Property and equipment are recorded at cost, which may equal fair market value in the case of property and equipment acquired in conjunction with a business acquisition. Depreciation of property and equipment is recorded using the straight-line method over the respective useful lives of the assets ranging from three to seven years. Leasehold improvements are amortized over the lesser of the expected useful life or the remaining lease term. Long-lived assets, including property and equipment are reviewed for impairment whenever events or circumstances indicate that the carrying amount of these assets may not be recoverable.

Intangible Assets subject to amortization—At September 30, 2012, intangible assets subject to amortization included patents and certain license agreements. Intangible assets subject to amortization are reviewed for impairment whenever events or circumstances indicate that the carrying amount of these assets may not be recoverable.

In-Process Research & Development (IPR&D) – IPR&D assets represent capitalized on-going research projects that Arrowhead acquired through business combinations. Such assets are initially measured at their acquisition date fair values. The amounts capitalized are being accounted for as indefinite-lived intangible assets, subject to impairment testing until completion or abandonment of R&D efforts associated with the project. Upon successful completion of a project, Arrowhead will make a determination as to the then remaining useful life of the intangible asset and begin amortization. Based on early adoption of ASU 2012-02, Arrowhead tests its indefinite-lived assets for impairment at least annually, through a two-step process. The first step is a qualitative assessment to determine if it is more likely than not that the indefinite lived assets are impaired. Arrowhead considers relevant events and circumstances that could affect the inputs used to determine the fair value of the intangible assets. If the qualitative assessment indicates that it is more likely than not that the intangible assets is impaired, a second step is performed which is a quantitative test to determine the fair value of the intangible asset. If the carrying amount of the intangible assets exceeds its fair value, an impairment loss is recorded in the amount of that excess. If circumstances determine that it is appropriate, the Company may also elect to bypass step one, and proceed directly to the second step.

Equity Investments—Arrowhead has a noncontrolling equity investment in Nanotope, a privately held biotechnology company, which is recorded in Other Assets. Historically, this investment was carried at cost less Arrowhead's proportionate share of Nanotope's operating loss for the period since investment. Based on the lack of significant progress in Nanotope's research and development efforts, the investment has been fully reserved and is carried at a net book value of zero. Arrowhead utilizes the equity method of accounting as it owns more than 20% of the voting equity and has the ability to exercise significant influence over this company.

Minority Equity Investments—The Company's minority equity investment in Leonardo, a privately held biotechnology company, has been recorded in Other Assets, however, an impairment charge has been recorded in 2012, and its net book value at September 30, 2012 is zero. This investment has been accounted for under the cost method of accounting.

Noncontrolling Interests in Majority-Owned Subsidiaries—Operating losses applicable to majority-owned Calando, Ablaris and, prior to its disposal, Unidym have periodically exceeded the noncontrolling interests in the equity capital of either Subsidiary. Such excess losses applicable to the noncontrolling interests have been and are borne by the Company as there is no obligation of the noncontrolling interests to fund any losses in excess of their original investment. There is also no obligation or commitment on the part of the Company to fund operating losses of any Subsidiary whether wholly-owned or majority-owned. The Company allocates the noncontrolling interest's share of net loss in excess of the noncontrolling interest's initial investment in accordance with FASB ASC 810-10, which was effective for the Company on October 1, 2009.

When there is a change in the Company's proportionate share of a development-stage Subsidiary resulting from additional equity transactions in a Subsidiary, the change is accounted for as an equity transaction in consolidation. To the extent that the increase in the calculated value of the Company's interest in the equity of the Subsidiary exceeds the Company's investment in the offering, that increase in value is referred to as the Company's "increase in its proportionate share of the Subsidiary's equity" and the amount is recorded as an increase in the Company's Additional Paid-in Capital.

Revenue Recognition—Revenue from license fees are recorded when persuasive evidence of an arrangement exists, title has passed or services have been rendered, a price is fixed and determinable, and collection is reasonably assured. We may generate revenue from product sales, technology licenses, collaborative research and development arrangements, and research grants. Revenue under technology licenses and collaborative agreements typically consists of nonrefundable and/or guaranteed technology license fees, collaborative research funding and various milestone and future product royalty or profit-sharing payments.

Revenue associated with research and development funding payments under collaborative agreements, is recognized ratably over the relevant periods specified in the agreement, generally the research and development period. Revenue from up-front license fees, milestones and product royalties are recognized as earned based on the completion of the milestones and product sales, as defined in the respective agreements. Payments received in advance of recognition as revenue are recorded as deferred revenue.

Allowance for Doubtful Accounts—The Company accrues an allowance for doubtful accounts based on estimates of uncollectible revenues by analyzing historical collections, accounts receivable aging and other factors. Accounts receivable are written off when all collection attempts have failed.

Research and Development—Costs and expenses that can be clearly identified as research and development are charged to expense as incurred in accordance with FASB ASC 730-10.

Earnings (Loss) per Share—Basic earnings (loss) per share is computed using the weighted-average number of common shares outstanding during the period. Diluted earnings (loss) per share are computed using the weighted-average number of common shares and dilutive potential common shares outstanding during the period. Dilutive potential common shares primarily consist of stock options issued to employees and consultants and warrants to purchase Common Stock of the Company.

Stock-Based Compensation—The Company accounts for share-based compensation arrangements in accordance with FASB ASC 718, which requires the measurement and recognition of compensation expense for all share-based payment awards to be based on estimated fair values. We use the Black-Scholes option valuation model to estimate the fair value of our stock options at the date of grant. The Black-Scholes option valuation model requires the input of subjective assumptions to calculate the value of stock options. We use historical data among other information to estimate the expected price volatility and the expected forfeiture rate.

Income Taxes—The Company accounts for income taxes under the liability method, which requires the recognition of deferred income tax assets and liabilities for the expected future tax consequences of events that have been included in the financial statements or tax returns. Under this method, deferred income taxes are recognized for the tax consequences in future years of differences between the tax bases of assets and liabilities and their financial reporting amounts at each period end based on enacted tax laws and statutory tax rates applicable to the periods in which the differences are expected to affect taxable income. Valuation allowances are established, when necessary, to reduce deferred income tax assets to the amount expected to be realized. The provision for income taxes, if any, represents the tax payable for the period and the change in deferred income tax assets and liabilities during the period.

Recently Issued Accounting Standards

In July 2012, the FASB issued ASU 2012-02, *Testing Indefinite-Lived Intangible Assets for Impairment*, which amended the guidance in ASU 2011-08 to simplify the testing of indefinite-lived intangible assets other than goodwill for impairment. ASU 2012-02 becomes effective for annual and interim impairment tests performed for fiscal years beginning on or after September 15, 2012 and earlier adoption is permitted. We adopted this standard in the third quarter of fiscal year 2012. We believe adoption did not have a material effect on our financial statements.

In September 2011, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2011-08, Intangibles – Goodwill and Other (Topic 350) – Testing Goodwill for Impairment (ASU 2011-08), to allow entities to use a qualitative approach to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. If after performing the qualitative assessment an entity determines it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, then performing the two-step goodwill impairment test is unnecessary. However, if an entity concludes otherwise, then it is required to perform the first step of the two-step goodwill impairment test. ASU 2011-08 is effective for us in fiscal 2013 and earlier adoption is permitted. The adoption of ASU 2011-08 is not anticipated to have any impact on our financial position, results of operations or cash flows.

In May 2011, the Financial Accounting Standards Board ("FASB") issued ASU 2011-04, Fair Value Measurement ("ASU 2011-04"), which amended ASC 820, Fair Value Measurements ("ASC 820"), providing a consistent definition and measurement of fair value, as well as similar disclosure requirements between U.S. GAAP and International Financial Reporting Standards. ASU 2011-04 changes certain fair value measurement principles, clarifies the application of existing fair value measurement and expands the disclosure requirements. ASU 2011-04 was effective for us beginning January 1, 2012. The adoption of ASU 2011-04 did not have a material effect on our consolidated financial statements or disclosures.

In June 2010, the FASB issued ASU No. 2010-17, *Revenue Recognition—Milestone Method (Topic 605): Milestone Method of Revenue Recognition.* This ASU codifies the consensus reached in EITF Issue No. 08-9, "Milestone Method of Revenue Recognition." The amendments to the Codification provide guidance on defining a milestone and determining when it may be appropriate to apply the milestone method of revenue recognition for research or development transactions. Consideration that is contingent on achievement of a milestone in its entirety may be recognized as revenue in the period in which the milestone is achieved only if the milestone is judged to meet certain criteria to be considered substantive. Milestones should be considered substantive in their entirety and may not be bifurcated. An arrangement may contain both substantive and nonsubstantive milestones, and each milestone should be evaluated individually to determine if it is substantive. This guidance was adopted effective October 1, 2010. The adoption of this guidance did not have a material impact on our consolidated financial statements.

NOTE 2. ACQUISITIONS

Roche Madison

On October 21, 2011, the Company entered into a Stock and Asset Purchase Agreement (the "RNAi Purchase Agreement") with Hoffmann-La Roche Inc. and F Hoffmann-La Roche Ltd (collectively, "Roche"), pursuant to which the Company purchased from Roche (i) all of the outstanding common stock of Roche Madison Inc. ("Roche Madison") and (ii) the intellectual property rights then held by Roche related to its RNAi business and identified in the RNAi Purchase Agreement (the "Transaction"). In consideration for the purchase of Roche Madison and the Roche RNAi assets, the Company issued to Roche a promissory note with a principal value of $50,000 and 901,702 shares of Common Stock (as adjusted for the 1-for-10 reverse stock split on November 17, 2011). Subsequently, as required by the RNAi Purchase Agreement, the Company issued an additional 386,456 shares of Common Stock. The acquisition provides additional technology, particularly related to RNAi delivery, and provided a state-of-the-art lab facility.

Pursuant to the RNAi Purchase Agreement, Roche has a right of first negotiation on certain product candidates developed by the Company and its affiliates relating to the purchased assets. If the Company proposes to out-license or enters into substantive negotiations to out-license, any Clinical Candidate or Existing Candidate (as such terms are defined in the RNAi Purchase Agreement), the Company must give notice of the Candidate it proposes to out-license and negotiate exclusively and in good faith with Roche for 90 days regarding the applicable out-license. This right of first negotiation applies to all Existing Candidates (as defined in the RNAi Purchase Agreement) and the first five Clinical Candidates for which the Company delivers notice to Roche and subsequently enters into an out-license.

In addition to the consideration paid by the Company as per the closing terms, the Company is obligated to make certain royalty and milestone payments to Roche upon the occurrence of certain events. For certain product candidates that are developed by the Company or its affiliates and that are covered by a valid claim by the patent rights transferred in the Transaction for which the Company and Roche do not enter into a licensing arrangement, the Company will be obligated to pay a 3% royalty on Net Sales (as defined in the RNAi Purchase Agreement), provided that the royalty rate may be reduced or offset in certain circumstances. The obligation to pay royalties on such candidates will last until the later of (i) the expiration of the last to expire patent right related to such product candidate that was transferred in the Transaction and (ii) ten years after the first commercial sale of such product candidate.

The Company will also be obligated to make cash payments to Roche upon the achievement of various milestones, including the first regulatory approval of an Existing Candidate in certain jurisdictions and upon certain annual sales milestones for Existing Candidates that may receive regulatory approval. The potential payments range from $2,500,000 to $6,000,000 per milestone. Based on the Company's estimate of future payments, a net present value of $84,935 was calculated as contingent consideration, and is recorded as a part of other noncurrent liabilities.

The following table summarizes the estimated fair values at the date of acquisition:

Current assets	$ 432,709
Property and equipment	7,215,206
Intangible assets	1,174,935
Other noncurrent assets	6,264
Current liabilities	(414,122)
Noncurrent liabilities	(1,570,072)
Gain on purchase	(1,576,106)
Total purchase consideration	$ 5,268,814

The purchase consideration was composed of the following:

Promissory note due Roche	$ 50,000
Contingent consideration	84,935
Shares issued to Roche	5,133,879
Total purchase consideration	$5,268,814

We estimated the fair value of the assets and liabilities acquired through various valuation techniques including a market approach and an income approach. Because the net identifiable tangible and intangible assets and liabilities were in excess of the purchase price, a gain on the purchase of $1.6 million was recorded. The most significant assets capitalized were research equipment and certain in-process research and development. We believe that we were able to acquire these assets at a reasonable purchase price and generate a gain on the transaction due in part from the seller's desire to exit the relatively early stage of the RNAi business, as compared to the seller's other business operations, as well as the seller's desire to dispose of certain on-going costs associated with the facility, primarily lease costs and personnel costs, which were synergistic to the Company's strategy to establish a research facility to advance development efforts for its drug product candidates.

Alvos Therapeutics

On April 5, 2012, the Company entered into a Stock Purchase Agreement to purchase all of the outstanding shares of Alvos Therapeutics, Inc., ("Alvos"), a privately held company that licensed a large platform of proprietary human-derived Homing Peptides, and the method for their discovery, from MD Anderson Cancer Center. In conjunction with the acquisition, Arrowhead hired one employee from Alvos, and retained one employee on a consulting basis. In exchange for all of the outstanding shares of Alvos, Arrowhead issued an upfront payment of 315,467 shares of Common Stock. The former Alvos stockholders are also eligible to receive additional issuances of stock valued at up to $23.5 million at the time of issuance based on the future achievement of clinical, regulatory and sales milestones. Based on the Company's estimate of future payments, a net present value of $88,686 was calculated as contingent consideration, and is recorded as a part of other noncurrent liabilities. The Alvos acquisition provided key technology in targeted therapeutics.

The following table summarizes the estimated fair values at the date of acquisition:

Current assets	$ 29,332
In-process R&D	2,172,387
Current liabilities	(113,033)
Total purchase consideration	$2,088,686

The purchase consideration was comprised solely of shares of Arrowhead Common Stock issued to the former shareholders of Alvos Therapeutics, Inc.

Shares issued	315,457
Price per share	$ 6.34
Share consideration	$2,000,000
Contingent consideration	88,686
Total purchase consideration	$2,088,686

NOTE 3. INTANGIBLE ASSETS

Intangible assets consist of in-process research and development (IPR&D) not subject to amortization, and patents and other intangible assets subject to amortization, which were capitalized as a part of a business combination.

IPR&D represents projects that have not yet received regulatory approval and are required to be classified as indefinite assets until the successful completion or the abandonment of the associated R&D efforts. Accordingly, during the development period after the date of acquisition, these assets will not be amortized until approval is obtained in one or more jurisdictions which, individually or combined, are expected to generate a significant portion of the total revenue expected to be earned by an IPR&D project. At that time, we will determine the useful life of the asset, reclassify the asset out of IPR&D and begin amortization. If the associated R&D effort is abandoned the related IPR&D assets will likely be written off and we would record an impairment loss.

Intangible assets subject to amortization include patents capitalized as part of a business combination as well as license agreements capitalized as part of a business combination from the acquisition of Roche Madison.

The license agreements are being amortized over the estimated life remaining at the time of acquisition which was 4 years. Patents are amortized over a period of three years to twenty years. The weighted average original amortization period is twelve years. Amortization of license agreements and patents is expected to be approximately $300,000 for fiscal years 2013, 2014, and 2015, $250,000 in 2016, $240,000 in 2017 and $280,000 thereafter.

We review amounts capitalized as in-process research and development for impairment at least annually in the fourth quarter, and whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. In the event the carrying value of the assets is not expected to be recovered, the assets are written down to their estimated fair values. We continue to test our indefinite-lived IPR&D assets for potential impairment until the projects are completed or abandoned.

The below table provides details on our intangible asset balances:

	Intangible assets not subject to amortization	Intangible assets subject to amortization	Total Intangible assets
Balance at September 30, 2010	$ 0	$ 1,973,019	$1,973,019
Amortization	0	(241,808)	(241,808)
Balance at September 30, 2011	$ 0	$ 1,731,211	$1,731,211
Additions – Madison acquisition	944,935	230,000	1,174,935
Additions – Alvos acquisition	2,172,387	0	2,172,387
Amortization	0	(293,964)	(293,964)
Balance at September 30, 2012	$ 3,117,322	$ 1,667.247	$4,784,569

NOTE 4. *INVESTMENT IN SUBSIDIARIES*

In addition to 100% ownership interest in Arrowhead Madison, Inc. and Alvos Therapeutics, Inc., Arrowhead also maintains majority ownership in Calando Pharmaceuticals, Ablaris Therapeutics, Inc., and minority investments in Nanotope, Inc. and Leonardo Biosystems, Inc.

Calando Pharmaceuticals, Inc.

Calando is a clinical stage RNAi therapeutics company. On April 17, 2008, Calando merged with and into Insert, with Insert as the surviving company. Prior to the merger, Arrowhead invested an aggregate of $23.2 million in Calando through equity and debt financings. As a condition of the merger, the Preferred Stock of each of Calando and Insert was converted into common stock and the loans were converted to equity. As a result of the merger, shares of Insert common stock were issued to the stockholders of the former Calando, and Insert changed its name to Calando Pharmaceuticals, Inc.

On November 26, 2008, Calando entered into Unsecured Convertible Promissory Note Agreements ("Notes") for $2.5 million with accredited investors and Arrowhead, which invested $200,000 in the Notes offering. Arrowhead subsequently invested an additional $600,000 in the same offering. Except for one Note in the principal amount of $500,000, all Notes and accrued interest were converted into a total of 2,950 shares of Calando Series A Preferred Stock on June 23, 2009. The remaining Note is due November 26, 2013; see Note 4 for further information.

In fiscal 2010, Arrowhead issued 122,000 shares of its Common Stock in exchange for shares of Calando common stock, with several minority stockholders of Calando. In conjunction with this exchange, Arrowhead also issued 26,400 warrants to purchase Arrowhead Common Stock in exchange for warrants to purchase Calando common stock.

In January 2011, Arrowhead invested $9.1 million, through a cash investment of $1.0 million and the conversion of $8.1 million intercompany debt, acquiring newly issued Calando Series B and Series C preferred stock.

As of September 30, 2012, Calando owed to Arrowhead $3.1 million under a series of 8% simple interest notes and advances. It is expected that these loans will either be repaid or converted to equity in the future. The balance of the notes and advances is eliminated in consolidation.

As of September 30, 2012, Arrowhead owned 79% of the outstanding shares of Calando and 76% on a fully diluted basis.

Ablaris Therapeutics, Inc.

Ablaris was formed and began operations in the first quarter of fiscal 2011, based on the license of certain anti-obesity technology developed at the MD Anderson Cancer Center at the University of Texas. During the year ended September 30, 2011, Ablaris raised $2.9 million in cash, of which $1.3 million was invested by Arrowhead and $1.6 million was invested by outside investors, through the issuance of Ablaris Series A Preferred stock.

As of September 30, 2012, Arrowhead owned 64% of the outstanding shares of Ablaris and 64% on a fully diluted basis.

Nanotope, Inc.

Nanotope's primary areas of focus include development of treatments for spinal cord injuries, cartilage regeneration and wound healing. As of September 30, 2012, Arrowhead owned 23% of the outstanding shares of Nanotope, and 19% on a fully diluted basis. Arrowhead accounts for its investment in Nanotope using the equity method of accounting.

During the quarter ended June 30, 2012, Nanotope closed its R&D operations at its facility in Skokie, Illinois, and moved R&D operations to the laboratories of Northwestern University under the direction of Dr. Samuel Stupp, the Company's founder. Development work will be performed by personnel in Dr. Stupp's lab, and Nanotope terminated the employment of its staff. The company's research equipment was sold to Arrowhead, to be utilized at its research facility in Madison, Wisconsin. Certain components of Nanotope's intellectual property portfolio continue to be maintained at Arrowhead's expense, potentially allowing Nanotope to benefit from successful developments. These circumstances required Arrowhead to examine its investment in Nanotope, as well as its receivable from Nanotope, for impairment. Upon review, it was determined that the remaining book value of its investment exceeded its fair value as determined by discounted future cash flows. As a result, upon completion of the assessment, management recorded a non-cash impairment charge of $1.4 million during the year ended September 30, 2012 to reduce the carrying value of the investment to $0. Additionally, the company recorded a full reserve against its receivable from Nanotope in the amount of the $1.9 million.

Summarized financial information for Nanotope, Inc. is as follows:

	September 30, 2012	September 30, 2011
Current assets	$ 31,000	$ 21,000
Non-current assets	0	85,000
Liabilities	2,070,000	1,255,000
Equity	(2,039,000)	(1,149,000)

	For the year ended September 30, 2012	For the year ended September 30, 2011
Revenue	$ 0	$ 515,000
Operating expenses	808,000	1,161,000
Net Loss	$ (890,000)	$ (709,000)

	For the year ended September 30, 2012	For the year ended September 30, 2011
Cash flows used in operating activities	$ (831,000)	$ (705,000)
Cash flows provided by (used in) investing activities	61,000	(31,000)
Cash flows provided by financing activities	784,000	746,000

Leonardo Biosystems, Inc.

Leonardo is developing a drug-delivery platform technology based on novel methods of designing porous silicon microparticles that selectively accumulate in tumor vasculature. Arrowhead accounts for its investment in Leonardo using the cost method of accounting. As of September 30, 2012, Leonardo owed to Arrowhead $547,000, included in other receivables. Although it is expected to be repaid or converted to equity, the Company has provided a full reserve against the receivable from Leonardo. As of September 30, 2012, Arrowhead's ownership interest in Leonardo was 3%.

NOTE 5. ***DISCONTINUED OPERATIONS***

Unidym, Inc.

Founded by Arrowhead in 2005, Unidym is developing electronic applications of carbon nanotubes. Arrowhead sold its ownership interest in Unidym to Wisepower, a Korean corporation, in January 2011. The consideration included $2.5 million in Wisepower stock, a convertible bond with a face value of $2.5 million, a percentage of certain revenue streams, as well as contingent payments up to $140 million based on revenue milestones over a ten-year period. The consideration received in the form of Wisepower stock has been liquidated. The consideration received in the form of a bond is currently held as a current asset. The bond which bears no interest, became convertible on January 17, 2012, is redeemable in cash on January 17, 2013, and becomes due on January 17, 2014.

In conjunction with the disposition of Unidym, the gain on the sale and the results of historical operations are recorded as discontinued operations in the Company's Statements of Operations. Additionally, the cash flows from Unidym are reflected separately as cash flows from discontinued operations in the Company's Consolidated Statement of Cash Flows. Any future cash flows as discussed above will also be reflected as a part of cash flows from discontinued operations.

Tego Biosciences, Inc.

On April 20, 2007, Tego, a wholly-owned subsidiary of Arrowhead, acquired the assets of C Sixty, Inc., a Texas-based company developing protective products based on the anti-oxidant properties of fullerenes.

In December 2009, Tego completed the sale of all of its intellectual property assets to Luna Innovations, Inc. The consideration included an upfront purchase price of $350,000 and reimbursements of patent and license expenses of $80,000, as well as contingent payments based on milestones and royalties for each fullerene product developed by Luna and covered by Tego intellectual property. Due to the sale of substantially all of Tego's assets, the operations of Tego ceased and the gain on the sale and the results of historical operations are recorded as discontinued operation in the Company's Statements of Operations. Additionally, the cash flows from Tego are reflected separately as cash flows from discontinued operations. Any future cash flows as discussed above will be reflected as a part of cash flows from discontinued operations in the Company's Consolidated Statements of Cash Flows.

NOTE 6. ***NOTES PAYABLE***

On November 26, 2008, Calando entered into Unsecured Convertible Promissory Note Agreements ("Notes") for $2.5 million with accredited investors and Arrowhead, which invested $200,000 in the Notes offering. Arrowhead subsequently invested an additional $600,000 in the same offering. Except for one Note in the principal amount of $500,000, all Notes and accrued interest were converted into a total of 2,950 shares of Calando Series A Preferred Stock on June 23, 2009. The remaining Note had a 10% interest rate, matured on November 26, 2010, and was renegotiated and extended until November 26, 2013. The terms of the new note include a 10% interest rate and require two times principal payment upon certain events as defined in the note and at maturity. At September 30, 2012, The Note is reflected on the balance sheet at the maturity amount of $1,000,000 less a discount of $210,579.

NOTE 7. *STOCKHOLDERS' EQUITY*

At September 30, 2012, the Company had a total of 150,000,000 shares of capital stock authorized for issuance, consisting of 145,000,000 shares of Common Stock, par value $0.001, and 5,000,000 shares of Preferred Stock, par value $0.001.

At September 30, 2012, 13,579,184 shares of Common Stock were outstanding; no shares of Preferred Stock were outstanding. At September 30, 2012, 153,200 shares and 1,965,860 shares were reserved for issuance upon exercise of options granted under Arrowhead's 2000 Stock Option Plan and 2004 Equity Incentive Plan, respectively.

On September 30, 2011, the Company sold 1,458,917 shares of Common Stock at a price of $3.80 per share. Cash proceeds received in fiscal 2011 were $4.5 million; the balance of $1 million is expected to be received in 2012. On October 4, 2011, the Company completed a second closing of the offering in which the Company sold 138,158 shares of Common Stock at a price of $3.80 per share. Cash proceeds were $525,000.

On October 20, 2011, the Company and Lincoln Park Capital Fund, LLC, an Illinois limited liability company ("LPC") entered into a $15 million purchase agreement (the "Purchase Agreement"), together with a registration rights agreement, whereby LPC agreed to purchase up to $15 million of Common Stock, subject to certain limitations, from time to time during the three-year term of the Purchase Agreement. Additionally, the Company filed a registration statement with the U.S. Securities & Exchange Commission covering the resale of the shares that may be issued to LPC under the Purchase Agreement. On January 30, 2012, the SEC declared the registration statement effective for the resale of such shares. The Company has the right, in its sole discretion, over a 36-month period to sell up to $15 million of Common Stock (subject to certain limitations) to LPC, depending on certain conditions as set forth in the Purchase Agreement. As of September 30, 2012, the Company had drawn $1 million from the facility.

On October 21, 2011 and October 24, 2011, the Company entered into Subscription Agreements with certain accredited investors (the "Series A Purchasers"), pursuant to which the Company issued and sold an aggregate of 1,015 shares of Series A Preferred Convertible Stock, $0.001 par value per share, at a purchase price of $1,000 per share. The aggregate purchase price paid for the shares of Series A Preferred was $1,015,000. On February 16, 2012, upon approval by the Company's shareholders, 1,015 shares of Arrowhead Series A Preferred Convertible Stock, $0.001 par value per share, were converted to 275,782 shares of Common Stock.

On October 21, 2011, the Company entered into a Subscription Agreement with an accredited investor, pursuant to which the Company issued and sold an aggregate of 675,000 shares of Common Stock, $0.001 par value per share, at a purchase price of $3.70 per share. The aggregate purchase price paid by the purchaser for the shares of Common Stock is $2,497,500.

On August 10, 2012 the Company sold 2,260,869 units at a price of $2.76 per unit. Each unit consisted of one share of common stock and a warrant to purchase 0.75 shares of common stock at an exercise price of $3.25. Gross proceeds from the offering were $6.2 million excluding offering fees and expenses.

As of November 17, 2011, the Company effected a 1 for 10 reverse stock split. As a result of the reverse stock split, each ten shares of the Company's Common Stock issued and outstanding immediately prior to the reverse stock split was combined into one share of Common Stock. Also, as a result of the reverse stock split, the per share exercise price, and the number of shares of Common Stock underlying Company stock options, warrants, and any Common Stock based equity grants outstanding immediately prior to the reverse stock split was proportionally adjusted, based on the one-for-ten split ratio, in accordance with the terms of such options, warrants or other Common Stock based equity grants as the case may be. No fractional shares of Common Stock were issued in connection with the reverse split. Stockholders received a cash payment in lieu of any fractional shares. All share and per share amounts in these financial statements have been retrospectively adjusted to reflect the reverse stock split.

The following table summarizes information about warrants outstanding at September 30, 2012:

Exercise prices	Number of Warrants	Remaining Life in Years
$70.60	94,897	4.6
$20.00	386,400	0.9
$5.00	1,155,023	2.2
$5.09	461,024	2.2
$1.38	322,150	3.2
$4.16	1,000	4.2
$3.25	1,695,654	3.9
Total warrants outstanding	4,116,147	

NOTE 8. ***LEASES***

In May 2012, the Company signed a lease for new office space for its corporate headquarters, and moved into the new location in August 2012. The lease has a five-year term; rental costs are approximately $13,000 per month, increasing 3% annually.

The Company's research facility in Madison, Wisconsin is leased through February 28, 2019. Monthly rental expense is approximately $22,000. Other monthly rental expenses include common area maintenance and real estate taxes totaling approximately $13,000 per month. Utilities costs are approximately $16,000 per month. Including monthly payments recorded under a capital lease of approximately $21,000, total monthly costs are approximately $72,000 per month.

Facility and equipment rent expense, related to continuing operations, for the year ended September 30, 2012 and 2011 was $480,000 and $162,000, respectively. From inception to date, rent expense was $4,125,485. Rent expense related to Unidym, until its disposal in January 2011, is included as a part of income/loss from discontinued operations.

As of September 30, 2012, future minimum lease payments due in fiscal years under capitalized leases are as follows:

2013	$ 256,846
2014	256,846
2015	256,846
2016	256,846
2017	256,846
2018 and thereafter	363,864
Less interest	(150,835)
Principal	1,497,259
Less current portion	(214,801)
Noncurrent portion	$1,282,458

As of September 30, 2012, future minimum lease payments due in fiscal years under operating leases are as follows:

2013	$ 356,672
2014	434,229
2015	445,921
2016	457,961
2017	470,154
2018 and thereafter	484,785
Total	$2,649,723

NOTE 9. ***STOCK-BASED COMPENSATION***

Arrowhead has two plans that provide for equity-based compensation. Under the 2000 Stock Option Plan, 153,200 shares of Arrowhead's Common Stock are reserved for issuance upon exercise of non-qualified stock options. No further grants can be made under the 2000 Stock Option Plan. The 2004 Equity Incentive Plan reserves 1,965,860 shares for the grant of stock options, stock appreciation rights, restricted stock awards and performance unit/share awards by the Board of Directors to employees, consultants and others. As of September 30, 2012, there were options granted and outstanding to purchase 153,200 and 1,767,894 shares of Common Stock under the 2000 Stock Option Plan and the 2004 Equity Incentive Plan, respectively. During the year ended September 30, 2012, 988,300 options were granted under the 2004 Equity Incentive Plan, and 251,200 options were granted outside of Equity Incentive plans as inducement stock options to new employees, hired in conjunction with the Company's acquisition of its Madison research facility in October 2011. All share and per share data in this footnote has been adjusted to reflect the 1 for 10 reverse stock split effected on November 17, 2011.

The following tables summarize information about stock options:

	Number of Options Outstanding	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
Balance At September 30, 2010	812,334	$ 10.62		
Granted	20,000	5.86		
Cancelled	(100,539)	21.32		
Exercised	(2,699)	5.10		

	Number of Options Outstanding	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
Balance At September 30, 2011	729,096	9.03		
Granted	1,229,500	4.40		
Cancelled	(42,919)	11.77		
Exercised	(4,883)	5.20		
Balance At September 30, 2012	1,910,794	$ 6.01	8.2 years	$ 0
Exercisable At September 30, 2012	811,214	$ 7.96	6.6 years	$ 0

Stock-based compensation expense for the year ended September 30, 2012 and 2011 was $1,241,404 and $1,376,921, respectively. For the years ended September 30, 2012 and 2011, $0 and $27,519, respectively, of this expense is included in discontinued operations. There is no income tax benefit as the company is currently operating at a loss and an actual income tax benefit may not be realized. The loss creates a timing difference, resulting in a deferred tax asset, which is fully reserved by a valuation allowance.

The fair value of the options granted by Arrowhead for the years ended September 30, 2012 and 2011 is estimated at $4,091,117 and $93,004, respectively. The aggregate fair value of options granted by Calando during the years ended September 30, 2012 and 2011 is estimated at $33,690 and $33,870, respectively.

The intrinsic value of the options exercised during the years ended September 30, 2012 and 2011 was $0 and $3,666, respectively.

As of September 30, 2012, the pre-tax compensation expense for all unvested stock options at Arrowhead in the amount of approximately $3,738,217 will be recognized in our results of operations over a weighted average period of 3.1 years. As of September 30, 2012, the pre-tax compensation expense for all unvested stock options at Calando in the amount of approximately $63,250 will be recognized in our results of operations over a weighted average period of 2.6 years.

The fair value of each stock option award is estimated on the date of grant using the Black-Scholes option pricing model. The Black-Scholes option valuation model was developed for use in estimating the fair value of traded options, which do not have vesting restrictions and are fully transferable. The determination of the fair value of each stock option is affected by our stock price on the date of grant, as well as assumptions regarding a number of highly complex and subjective variables. Because the Company's employee stock options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in management's opinion, the existing models do not necessarily provide a reliable single measure of the fair value of its employee stock options. The assumptions used to value stock options are as follows:

	Year ended September 30,	
	2012	2011
Dividend yield	—	—
Risk-free interest rate	0.9% to 1.7%	1.11% to 2.90%
Volatility	90% -100%	100%
Expected life (in years)	5.5 to 6.25	5.5 to 6.25
Weighted average grant date fair value per share of options granted	$3.32	$4.70

The dividend yield is zero as the Company currently does not pay a dividend.

The risk-free interest rate is based on the U.S. Treasury bond.

Volatility is estimated based on volatility average of the Company's Common Stock price.

NOTE 10. ***FAIR VALUE MEASUREMENTS & DERIVATIVE INSTRUMENTS***

The Company measures its financial assets and liabilities at fair value. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (i.e., exit price) in an orderly transaction between market participants at the measurement date. Additionally, the Company is required to provide disclosure and categorize assets and liabilities measured at fair value into one of three different levels depending on the assumptions (i.e., inputs) used in the valuation. Level 1 provides the most reliable measure of fair value while Level 3 generally requires significant management judgment. Financial assets and liabilities are classified in their entirety based on the lowest level of input significant to the fair value measurement. The fair value hierarchy is defined as follows:

Level 1—Valuations are based on unadjusted quoted prices in active markets for identical assets or liabilities.

Level 2—Valuations are based on quoted prices for similar assets or liabilities in active markets, or quoted prices in markets that are not active for which significant inputs are observable, either directly or indirectly.

Level 3—Valuations are based on prices or valuation techniques that require inputs that are both unobservable and significant to the overall fair value measurement. Inputs reflect management's best estimate of what market participants would use in valuing the asset or liability at the measurement date.

The following table summarizes fair value measurements at September 30, 2012 and September 30, 2011 for assets and liabilities measured at fair value on a recurring basis:

September 30, 2012:

	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	$3,377,288	$ —	$ —	$3,377,288
Marketable securities	$ 106,500	$ —	$ —	$ 106,500
Derivative assets	$ —	$ —	$250,250	$ 250,250
Derivative liabilities	$ —	$ —	$647,213	$ 647,213
Contingent consideration	$ —	$ —	$173,621	$ 173,621

September 30, 2011:

	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	$7,507,389	$ —	$ —	$7,507,389
Marketable securities	$ 634,585	$ —	$ —	$ 634,585
Derivative assets	$ —	$ —	$161,125	$ 161,125
Derivative liabilities	$ —	$ —	$944,980	$ 944,980
Contingent consideration	$ —	$ —	$ —	$ —

As part of the sale of proceeds from the sale of Unidym in January 2011, Arrowhead received a bond from Wisepower in the face amount of $2.5 million. The bond is convertible to Wisepower common stock at a price of $2.00 per share. The conversion feature is subject to derivative accounting as prescribed under ASC 815. Accordingly, the fair value of the conversion feature on the date of issuance was estimated using an option pricing model and recorded on the Company's consolidated balance sheet as a derivative asset. The fair value of the conversion feature is estimated at the end of each reporting period and the change in the fair value of the conversion feature is recorded as a nonoperating gain/loss as change in value of derivatives in Company's Consolidated Statement of Operations. A portion of the bond is owed to a third party, as such the company records a derivative asset for the entire conversion feature and records a derivative liability for the portion related to the third party. The original fair value of the derivative relating to the third party was $26,310; the fair value at September 30, 2011 was $6,854, and the fair value at September 30, 2012 was $10,645. The gain from the change in value of the derivative asset, net of the derivative liability, for the year ended September 30, 2012 was $85,334, and is reflected in the change in value of derivatives in the Company's consolidated statement of operations.

During the year ended September 30, 2012, the Company recorded a gain from the change in fair value of the derivative asset of $89,125. The assumptions used in valuing the derivative asset as of September 30, 2012 and 2011 were as follows:

	September 30, 2012	September 30, 2011
Risk free interest rate	0.23%	0.4%
Expected life	1.3 Years	2.3 Years
Dividend yield	none	none
Volatility	72%	72%

The following is a reconciliation of the derivative asset for the years ended September 30, 2012 and 2011:

Value at September 30, 2010	$ —
Receipt of instruments	618,500
Change in value	(457,375)
Value at October 1, 2011	161,125
Receipt of instruments	—
Increase in value	89,125
Net settlements	—
Value at September 30, 2012	$ 250,250

As part of the equity financing on June 17, 2010, Arrowhead issued warrants to acquire up to 329,649 shares of Common Stock (the "Warrants") which contain a mechanism to adjust the strike price upon the issuance of certain dilutive equity securities. If during the term of the Warrants, the Company issues Common Stock at a price lower than the exercise price of the Warrants, the exercise price of the Warrants would be reduced to the amount equal to the issuance price of the Common Stock. As a result of this feature, the Warrants are subject to derivative accounting as prescribed under ASC 815. Accordingly, the fair value of the Warrants on the date of issuance was estimated using an option pricing model and recorded on the Company's consolidated balance sheet as a derivative liability. The fair value of the Warrants is estimated at the end of each reporting period and the change in the fair value of the Warrants is recorded as a nonoperating gain or loss in the Company's consolidated statement of operations. During the year ended September 30, 2012, the Company recorded a non-cash loss from the change in fair value of the derivative liability of $281,038. The assumptions used in valuing the derivative liability as of September 30, 2012 and 2011 were as follows:

	September 30, 2012	September 30, 2011
Risk free interest rate	0.31%	0.9%
Expected life	3.2 Years	4.2 Years
Dividend yield	none	none
Volatility	100%	100%

The following is a reconciliation of the derivative liability related to these warrants for the years ended September 30, 2012 and 2011:

Value at September 30, 2010	$ 2,408,522
Receipt of instruments	—
Change in value	(1,501,289)
Value at September 30, 2011	$ 907,233
Receipt of instruments	—
Change in value	(281,038)
Net settlements	—
Value at September 30, 2012	$ 626,195

In conjunction with the financing of Ablaris during the year ended September 30, 2011, Arrowhead sold exchange rights to certain investors whereby the investors have the right to exchange their shares of Ablaris for a prescribed number of Arrowhead shares based upon a predefined ratio. The exchange rights have a seven-year term. During the first year, the exchange right allows the holder to exchange one Ablaris share for 0.06 Arrowhead shares (as adjusted for a subsequent reverse stock split). This ratio declines to 0.04 in the second year, 0.03 in the third year and 0.02 in the fourth year. In the fifth year and beyond the exchange ratio is 0.01. Exchange rights for 675,000 Ablaris shares were sold during the year ended September 30, 2011, and remain outstanding at September 30, 2012. The exchange rights are subject to derivative accounting as prescribed under ASC 815. Accordingly, the fair value of the exchange rights on the date of issuance was estimated using an option pricing model and recorded on the Company's consolidated balance sheet as a derivative liability. The fair value of the exchange rights is estimated at the end of each reporting period and the change in the fair value of the exchange rights is recorded as a nonoperating gain or loss in the Company's Consolidated Statement of Operations. During the year ended September 30, 2012, the Company recorded a non-cash loss from the change in fair value of the derivative liability of $20,520. The assumptions used in valuing the derivative liability as of September 30, 2012 and 2011 were as follows:

	September 30, 2012	September 30, 2011
Risk free interest rate	0.62%	1.3%
Expected life	5.3 Years	6.3 Years
Dividend yield	none	none
Volatility	100%	100%

The following is a reconciliation of the derivative liability related to these exchange rights for the years ended September 30, 2012 and 2011:

Value at September 30, 2010	$ —
Issuance of instruments	100,650
Change in value	(69,758)
Value at September 30, 2011	$ 30,892
Issuance of instruments	—
Change in value	(20,520)
Net settlements	—
Value at September 30, 2012	$ 10,372

During the year ended September 30, 2012, contingent consideration was recorded upon the acquisitions of Roche Madison, Inc. and Alvos Therapeutics, Inc., totaling $173,621. The fair value measurement of the contingent consideration obligations is determined using Level 3 inputs. The fair value of contingent consideration obligations is based on a discounted cash flow model using a probability-weighted income approach. The measurement is based upon unobservable inputs supported by little or no market activity based on our own assumptions and experience. Estimating timing to complete the development, and obtain approval of products is difficult, and there are inherent uncertainties in developing a product candidate, such as obtaining U.S. Food and Drug Administration (FDA) and other regulatory approvals. In determining the probability of regulatory approval and commercial success, we utilize data regarding similar milestone events from several sources, including industry studies and our own experience. These fair value measurements represent Level 3 measurements as they are based on significant inputs not observable in the market. Significant judgment is employed in determining the appropriateness of these assumptions as of the acquisition date and for each subsequent period. Accordingly, changes in assumptions could have a material impact on the amount of contingent consideration expense we record in any given period. Changes in the fair value of the contingent consideration obligations are recorded in our consolidated statement of operations. There were no changes in contingent consideration fair value as of September 30, 2012.

Value at September 30, 2011	$ —
Purchase price contingent consideration	173,621
Contingent consideration payments	—
Change in fair value of contingent consideration	—
Value at September 30, 2012	$173,621

The carrying amounts of the Company's other financial instruments, which include accounts receivable, accounts payable, and accrued expenses approximate their respective fair values due to the relatively short-term nature of these instruments. The carrying value of the Company's debt obligations approximates fair value based on market interest rates.

NOTE 11. ***INCOME TAXES***

The Company utilizes the guidance issued by the FASB for accounting for income taxes which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the financial statements or tax returns.

Under this method, deferred income taxes are recognized for the tax consequences in future years of differences between the tax bases of assets and liabilities and their financial reporting amounts at each year-end based on enacted tax laws and statutory tax rates applicable to the periods in which the differences are expected to affect taxable income. Valuation allowances are established, when necessary, to reduce deferred tax assets to the amount expected to be realized. The provision for income taxes represents the tax payable for the period and the change during the period in deferred tax assets and liabilities.

For the years ended September 30, 2012 and 2011, the Company had consolidated net book losses of $22.4 million and $3.5 million, respectively. The losses result in a deferred income tax benefit which is offset by a deferred tax provision for the valuation allowance for a net deferred provision of zero. Since the Company is a development stage company, management has provided a 100% valuation allowance against its deferred tax assets until such time as management believes that its projections of future profits as well as expected future tax rates make the realization of these deferred tax assets more-likely-than-not. Significant judgment is required in the evaluation of deferred tax benefits and differences in future results from our estimates could result in material differences in the realization of these assets.

As of September 30, 2012, the Company has available gross federal net operating loss (NOL) carry forwards of $107.2 million and gross state NOL carry forwards of $75.9 million which expire at various dates through 2032.

As of September 30, 2012, the deferred tax assets were $40.9 million. The Company has recorded a full valuation allowance of $40.9 million related to federal and state net operating loss carry forwards. The Company has performed an assessment of positive and negative evidence regarding the realization of the net deferred tax asset in accordance with FASB ASC 740-10, "Accounting for Income Taxes." This assessment included the evaluation of scheduled reversals of deferred tax liabilities, the availability of carry forwards and estimates of projected future taxable income.

The Company has adopted guidance issued by the FASB that clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements and prescribes a recognition threshold of more likely than not and a measurement process for financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. In making this assessment, a company must determine whether it is more likely than not that a tax position will be sustained upon examination, based solely on the technical merits of the position and must assume that the tax position will be examined by taxing authorities. Our policy is to include interest and penalties related to unrecognized tax benefits in income tax expense. Interest and penalties totaled $0 for the years ended September 30, 2012 and 2011, respectively, and $0 for the period from May 7, 2003 (date of inception) through September 30, 2012. The Company files income tax returns with the Internal Revenue Service ("IRS"), the state of California and certain other taxing jurisdictions. For jurisdictions in which tax filings are prepared, the Company is no longer subject to income tax examinations by state tax authorities for years through fiscal 2007, and by the IRS for the years through fiscal 2008. Our review of prior year tax positions using the criteria and provisions presented by the FASB did not result in a material impact on the Company's financial position or results of operations.

The provision for income taxes differs from the federal statutory rate due to state income taxes and changes in the valuation allowance for deferred income tax assets.

NOTE 13. ***RELATED PARTY TRANSACTIONS***

Christopher Anzalone, Arrowhead's President and CEO, owns 1,395,900 shares of Nanotope, Inc. common stock or approximately 14.2% of Nanotope's outstanding voting securities. Dr. Anzalone does not hold options, warrants or any other rights to acquire securities of Nanotope. Dr. Anzalone has the right to appoint a representative to the board of directors of Nanotope. Dr. Anzalone currently serves on the Nanotope board in a seat reserved for Nanotope's CEO, and another individual holds the seat designated by Dr. Anzalone. Dr. Anzalone has served as President and Chief Executive Officer of Nanotope since its formation and continues to serve in these capacities. Dr. Anzalone has not received any compensation for his work on behalf of Nanotope since joining the Company on December 1, 2007. Dr. Anzalone has also waived his right to any unpaid compensation accrued for work done on behalf of Nanotope before he joined the Company.

In August 2010, the Company retained Mr. Vincent Anzalone, the brother of Arrowhead's Chief Executive Officer, as a consultant for the Company, focusing on business development and market analysis, with a monthly remuneration of $10,000 per month. Mr. Vincent Anzalone was paid $120,000 during the fiscal years ended September 30, 2012, and 2011.

NOTE 14. ***EMPLOYEE BENEFIT PLANS***

In January 2005, the Company began sponsoring a defined contribution 401(k) retirement savings plan covering substantially all of its employees. The Plan was administered under the "safe harbor" provision of ERISA. Under the terms of the plan, an eligible employee may elect to contribute a portion of their salary on a pre-tax basis, subject to federal statutory limitations. The plan allowed for a discretionary match in an amount up to 100% of each participant's first 3% of compensation contributed plus 50% of each participant's next 2% of compensation contributed.

For the years ended September 30, 2012 and 2011, we recorded expenses under these plans of approximately $162,000 and $43,000, respectively and $616,000 since inception of the Company.

In addition to the employee benefit plans described above, the Company participates in certain customary employee benefits plans, including those which provide health and life insurance benefits to employees.

NOTE 15. ***SUBSEQUENT EVENTS***

In December 2012, the Company sold 1.9 million units at a price of $2.26 per unit in a public offering. Each unit consisted of one share of Common Stock and a warrant to purchase 0.5 share of Common Stock, exercisable at $2.20. Gross proceeds from the offering were $4.3 million, which included a $500,000 promissory note due February 1, 2013. Commissions and other offering expenses are expected to be approximately $300,000.

Exhibit 21.1

Subsidiary	Jurisdiction
Calando Pharmaceuticals, Inc.	Delaware
Agonn Systems, Inc.	Delaware
Tego Biosciences Corporation	Delaware
Ablaris Therapeutics, Inc.	Delaware
Arrowhead Madison Inc.	Delaware
Alvos Therapeutics, Inc.	Delaware

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Annual Report on Form 10-K of Arrowhead Research Corporation for the year ended September 30, 2012 of our report dated December 17, 2012 included in its Registration Statements on Forms S-3 (Nos. 333-176159, 333-178532, 333-178073, 333-178072, 333-176159, 333-164039, 333-161344, 333-148218, 333-144109, 333-137329, 333-132310, 333-124065, and 333-113065) and Forms S-8 (Nos. 333-170252, 333-136225, 333-124066, and 333-120072) relating to the consolidated financial statements of Arrowhead Research Corporation and Subsidiaries for the year ended September 30, 2012. Our report relating to the consolidated financial statements contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

/s/ Rose, Snyder & Jacobs LLP

Encino, California

December 27, 2012

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO RULE 13a-14(a) OR RULE 15d-14(a)
OF THE SECURITIES EXCHANGE ACT OF 1934

I, Christopher Anzalone, Chief Executive Officer of Arrowhead Research Corporation, certify that:

1. I have reviewed this Annual Report on Form 10-K of Arrowhead Research Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15 (f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: December 28, 2012

/ S / C HRISTOPHER A NZALONE

Christopher Anzalone
Chief Executive Officer

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO RULE 13a-14(a) OR RULE 15d-14(a)
OF THE SECURITIES EXCHANGE ACT OF 1934

I, Kenneth A. Myszkowski, Chief Financial Officer of Arrowhead Research Corporation, certify that:

1. I have reviewed this Annual Report on Form 10-K of Arrowhead Research Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15 (f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: December 28, 2012

/s/ Kenneth A. Myszkowski

Kenneth A. Myszkowski,
Chief Financial Officer

Exhibit 32.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO RULE 13a-14(b) OR RULE 15d-14(b)
OF THE SECURITIES EXCHANGE ACT OF 1934
AND 18 U.S.C. SECTION 1350

I, Christopher Anzalone, Chief Executive Officer of Arrowhead Research Corporation (the "Company"), certify, pursuant to Rule 13(a)-14 (b) or Rule 15(d)-14(b) of the Securities Exchange Act of 1934 and 18 U.S.C. Section 1350, that (i) the Annual Report on Form 10-K of the Company for the year ended September 30, 2012, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and (ii) the information contained in such Annual Report on Form 10-K fairly presents in all material respects the financial condition and results of operations of the Company.

Date: December 28, 2012

/ S / C HRISTOPHER A NZALONE

Christopher Anzalone
Chief Executive Officer

A signed original of these written statements required by 18 U.S.C. Section 1350 has been provided to Arrowhead Research Corporation and will be retained by Arrowhead Research Corporation and furnished to the Securities and Exchange Commission or its staff upon request.

Exhibit 32.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO RULE 13a-14(b) OR RULE 15d-14(b)
OF THE SECURITIES EXCHANGE ACT OF 1934
AND 18 U.S.C. SECTION 1350

I, Kenneth A. Myszkowski, Chief Financial Officer of Arrowhead Research Corporation (the "Company"), certify, pursuant to Rule 13(a)-14(b) or Rule 15(d)-14(b) of the Securities Exchange Act of 1934 and 18 U.S.C. Section 1350, that (i) the Annual Report on Form 10-K of the Company for the year ended September 30, 2012, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and (ii) the information contained in such Annual Report on Form 10-K fairly presents in all material respects the financial condition and results of operations of the Company.

Date: December 28, 2012

/s/ Kenneth A. Myszkowski

Kenneth A. Myszkowski
Chief Financial Officer

A signed original of these written statements required by 18 U.S.C. Section 1350 has been provided to Arrowhead Research Corporation and will be retained by Arrowhead Research Corporation and furnished to the Securities and Exchange Commission or its staff upon request.