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# IMMUNOCELLULAR THERAPEUTICS, LTD.

## FORM 10-Q
(Quarterly Report)

Filed 11/10/16 for the Period Ending 09/30/16

| | |
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| Symbol | IMUC |
| SIC Code | 2834 - Pharmaceutical Preparations |
| Industry | Biotechnology & Medical Research |
| Sector | Healthcare |
| Fiscal Year | 12/31 |

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# UNITED STATES
# SECURITIES AND EXCHANGE COMMISSION
**Washington, D.C. 20549**

# FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

**For the quarterly period ended September 30, 2016**

**or**

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

**Commission file number 001-35560**

# ImmunoCellular Therapeutics, Ltd.
**(Exact name of registrant as specified in its charter)**

| **Delaware** | **93-1301885** |
|---|---|
| **(State or other jurisdiction of incorporation or organization)** | **(IRS Employer Identification No.)** |
| **23622 Calabasas Road, Suite 300 Calabasas, California** | **91302** |
| **(Address of principal executive offices)** | **(Zip code)** |

**(818) 264-2300**
**(Registrant's telephone number, including area code)**

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 whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer," and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

| | | | |
|---|---|---|---|
| Large accelerated filer | ☐ | Accelerated Filer | ☐ |
| Non-accelerated filer (Do not check if a smaller reporting company) | ☐ | Smaller reporting company | ☒ |

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

The Issuer had 137,795,802 shares of its common stock outstanding as of November 4, 2016 .

**ImmunoCellular Therapeutics, Ltd.**

**FORM 10-Q**

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**PART 1**
**FINANCIAL INFORMATION**

**Item 1. Condensed Consolidated Financial Statements**

**ImmunoCellular Therapeutics, Ltd.**

**Condensed Consolidated Balance Sheets**

| | September 30, 2016 (unaudited) | December 31, 2015 |
|---|---|---|
| **Assets** | | |
| Current assets: | | |
| Cash and cash equivalents | $ 15,297,823 | $ 22,604,481 |
| Supplies for clinical trials | 1,037,291 | 1,158,632 |
| Other assets | 631,225 | 797,425 |
| Total current assets | 16,966,339 | 24,560,538 |
| Property and equipment, net | 126,718 | 180,922 |
| Supplies for clinical trials | 1,614,835 | 1,115,657 |
| Deposits | 3,520,885 | 4,176,280 |
| Deferred financing costs | — | 48,977 |
| Total assets | $ 22,228,777 | $ 30,082,374 |
| **Liabilities and Shareholders' Equity** | | |
| Current liabilities: | | |
| Accounts payable | $ 471,645 | $ 1,161,258 |
| Accrued compensation and benefits | 359,219 | 790,487 |
| Accrued liabilities | 902,573 | 317,653 |
| Total current liabilities | 1,733,437 | 2,269,398 |
| CIRM liability | 6,523,051 | 4,133,905 |
| Warrant liability | 2,340,876 | 1,958,775 |
| Total liabilities | 10,597,364 | 8,362,078 |
| Commitments and contingencies (Note 5) | | |
| Shareholders' equity: | | |
| Common stock, $0.0001 par value; 249,000,000 shares authorized; 137,795,802 and 90,310,149 shares issued and outstanding as of September 30, 2016 and December 31, 2015, respectively | 13,780 | 9,031 |
| Additional paid-in capital | 101,516,114 | 95,849,005 |
| Accumulated deficit | (89,898,481) | (74,137,740) |
| Total shareholders' equity | 11,631,413 | 21,720,296 |
| Total liabilities and shareholders' equity | $ 22,228,777 | $ 30,082,374 |

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

**ImmunoCellular Therapeutics, Ltd.**

**Condensed Consolidated Statements of Operations**
**(unaudited)**

| | For the Three Months Ended September 30, 2016 | For the Three Months Ended September 30, 2015 | For the Nine Months Ended September 30, 2016 | For the Nine Months Ended September 30, 2015 |
|---|---|---|---|---|
| Revenues | $ — | $ — | $ — | $ — |
| Expenses: | | | | |
| Research and development | 4,563,896 | 2,662,373 | 13,734,693 | 7,028,242 |
| General and administrative | 908,380 | 1,083,516 | 3,058,027 | 3,206,356 |
| Total expenses | 5,472,276 | 3,745,889 | 16,792,720 | 10,234,598 |
| Loss before other income (expense) | | | | |
| and taxes | (5,472,276) | (3,745,889) | (16,792,720) | (10,234,598) |
| Interest income | 9,920 | 5,498 | 18,831 | 14,408 |
| Interest expense | (342,323) | — | (889,146) | — |
| Financing expense | (111,557) | — | (142,788) | (88,939) |
| Change in fair value of | | | | |
| warrant liability | 1,118,411 | 339,136 | 2,045,082 | 2,328,298 |
| Loss before provision for income taxes | (4,797,825) | (3,401,255) | (15,760,741) | (7,980,831) |
| Provision for income taxes | — | — | — | — |
| Net loss | $ (4,797,825) | $ (3,401,255) | $ (15,760,741) | $ (7,980,831) |
| Net loss per share | $ (0.04) | $ (0.04) | $ (0.15) | $ (0.09) |
| Weighted average number of shares outstanding basic and diluted: | 121,336,020 | 90,260,703 | 101,904,347 | 86,156,805 |

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

**ImmunoCellular Therapeutics, Ltd.**

**Condensed Consolidated Statements of Shareholders' Equity (Deficit)**
**(unaudited)**

| | Common Stock | | Additional Paid-in Capital | Accumulated Deficit | Total |
|---|---|---|---|---|---|
| | Shares | Amount | | | |
| Balance at December 31, 2015 | 90,310,149 | $ 9,031 | $ 95,849,005 | $ (74,137,740) | $ 21,720,296 |
| Common stock issued through controlled equity offering at an average of $0.25 per share net of offering costs | 3,085,653 | 309 | 641,901 | — | 642,210 |
| Common stock and warrants issued for cash at $0.16 per unit, net of offering costs | 44,400,000 | 4,440 | 4,265,784 | — | 4,270,224 |
| Stock based compensation | — | — | 759,424 | — | 759,424 |
| Net loss | — | — | — | (15,760,741) | (15,760,741) |
| Balance at September 30, 2016 | 137,795,802 | $ 13,780 | $ 101,516,114 | $ (89,898,481) | $ 11,631,413 |

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

**ImmunoCellular Therapeutics, Ltd.**

**Condensed Consolidated Statements of Cash Flows**
**(unaudited)**

| | For the Nine Months Ended September 30, 2016 | For the Nine Months Ended September 30, 2015 |
|---|---|---|
| **Cash flows from operating activities:** | | |
| Net loss | $ (15,760,741) | $ (7,980,831) |
| Adjustments to reconcile net loss to net cash used in operating activities: | | |
| Depreciation | 58,219 | 20,282 |
| Change in fair value of warrant liability | (2,045,082) | (2,328,298) |
| Financing expense | 142,788 | 88,939 |
| Stock-based compensation | 759,424 | 666,123 |
| Restricted stock issued for services | — | 9,400 |
| Accrued interest on CIRM award | 889,146 | — |
| Changes in assets and liabilities: | | |
| Other assets | 166,200 | (354,142) |
| Supplies for clinical trials | (377,837) | — |
| Deposits | 655,395 | (4,060,977) |
| Accounts payable | (764,613) | 535,594 |
| Accrued compensation and benefits | (431,268) | 153,690 |
| Accrued liabilities | 584,920 | 26,449 |
| Net cash used in operating activities | (16,123,449) | (13,223,771) |
| **Cash flows from investing activities:** | | |
| Purchase of property and equipment | (4,015) | (169,750) |
| Net cash used in investing activities | (4,015) | (169,750) |
| **Cash flows from financing activities:** | | |
| Proceeds from the issuance of common stock through controlled equity offering | 691,187 | — |
| Proceeds from CIRM award | 1,500,000 | — |
| Proceeds from issuance of common stock and warrants net of offering costs | 6,629,619 | 14,606,377 |
| Net cash provided by financing activities | 8,820,806 | 14,606,377 |
| (Decrease) increase in cash and cash equivalents | (7,306,658) | 1,212,856 |
| Cash and cash equivalents, beginning of period | 22,604,481 | 23,222,296 |
| Cash and cash equivalents, end of period | $ 15,297,823 | $ 24,435,152 |
| **Supplemental cash flows disclosures:** | | |
| Interest expense paid | $ — | $ — |
| Income taxes paid | $ — | $ — |
| **Supplemental non-cash disclosures** | | |
| Financing costs included in accounts payable | $ 75,000 | $ — |

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

**1. Nature of Organization (Planned Principal Operations Have Not Commenced)**

ImmunoCellular Therapeutics, Ltd. (the Company) is seeking to develop and commercialize new therapeutics to fight cancer using the immune system. These condensed consolidated financial statements include the Company's wholly owned subsidiaries, ImmunoCellular Bermuda, Ltd. in Bermuda and ImmunoCellular Therapeutics (Ireland) Limited and ImmunoCellular Therapeutics (Europe) Limited in Ireland, which were formed during 2014.

The Company has been primarily engaged in the acquisition of certain intellectual property, together with development of its immunotherapy product candidates and the recent clinical testing activities for one of its immunotherapy product candidates, and has not generated any recurring revenues. The Company has begun Phase 3 testing of its lead product candidate, ICT-107. The Company has two other product candidates, ICT-140 and ICT-121, both with investigational new drug (IND) applications active at the US Food and Drug Administration (FDA). Currently, the Company has suspended development of ICT-140 until the Company has either secured a partner for the program or sufficient financial resources to complete the ICT-107 Phase 3 program. Additionally, the Company has acquired the rights to technology for the development of certain stem cell immunotherapies for the treatment of cancer. The Company has incurred operating losses and, as of September 30, 2016 , the Company had an accumulated deficit of $89,898,481 . The Company expects to incur significant research, development and administrative expenses before any of its products can be launched and recurring revenues generated.

The Company's activities are subject to significant risks and uncertainties, including the failure of any of the Company's product candidates to achieve clinical success or to obtain regulatory approval. Additionally, it is possible that other companies with competing products and technology might obtain regulatory approval ahead of the Company. The Company will need significant amounts of additional funding in order to complete the development of any of its product candidates and the availability and terms of such funding cannot be assured.

**Interim Results**

The accompanying condensed consolidated financial statements as of September 30, 2016 and for the three and nine month periods ended September 30, 2016 and 2015 are unaudited, but include all adjustments, consisting of normal recurring entries, which the Company's management believes to be necessary for a fair presentation of the periods presented. Interim results are not necessarily indicative of results for a full year. Balance sheet amounts as of December 31, 2015 have been derived from the Company's audited financial statements included in its Form 10-K for the year ended December 31, 2015 filed with the Securities and Exchange Commission (SEC) on March 30, 2016.

The condensed consolidated financial statements included herein have been prepared by the Company pursuant to the rules and regulations of the SEC. Certain information and note disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the U.S. (GAAP) have been condensed or omitted pursuant to such rules and regulations. The condensed consolidated financial statements should be read in conjunction with the Company's audited financial statements in its Form 10-K for the year ended December 31, 2015 . The Company's operating results will fluctuate for the foreseeable future. Therefore, period-to-period comparisons should not be relied upon as predictive of the results in future periods.

**2. Summary of Significant Accounting Policies**

*Basis of presentation and going concern* - The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. Since inception, the Company has been engaged in research and development activities and has not generated any cash flows from operations. Through September 30, 2016 , the Company has incurred accumulated losses of $89,898,481 and as of September 30, 2016 , the Company had $15,297,823 of cash. The Company believes that it will not have enough cash resources to fund the business for the next 12 months. Successful completion of the Company's research and development activities, and its transition to attaining profitable operations, is dependent upon obtaining additional financing. Additional financing may not be available on acceptable terms or at all. If the Company issues additional equity securities to raise funds, the ownership percentage of existing stockholders would be reduced. New investors may demand rights, preferences or privileges senior to those of existing holders of common stock. If the Company cannot raise funds, it might be forced to make substantial reductions in the on-going clinical trials, thereby

damaging the Company's reputation in the biotech and medical communities, which could adversely affect the Company's ability to implement its business plan and its viability. These factors raise substantial doubt about the Company's ability to continue as a going concern. These consolidated financial statements do not include any adjustment that might result from the outcome of this uncertainty.

The Company plans to improve its liquidity by obtaining additional financing through the issuance of financial instruments such as equity and warrants or through the receipt of grants and awards.

*Principles of Consolidation* - The condensed consolidated balance sheets include the accounts of the Company and its subsidiaries. The consolidated statements of operations include the Company's accounts and the accounts of its subsidiaries from the date of acquisition. All intercompany transactions and balances have been eliminated in consolidation.

*Cash and cash equivalents* – The Company considers all highly liquid instruments with an original maturity of 90 days or less at acquisition to be cash equivalents. As of September 30, 2016 and December 31, 2015 , the Company had $7,457,067 and $21,818,229 , respectively, of certificates of deposit. The Company places its cash and cash equivalents with various banks in order to maintain FDIC insurance on all of its investments.

*Supplies for clinical trials* - Supplies are stated at the lower of cost or market, with cost determined by the first-in, first-out basis and consist of items that will be used in the Company's ongoing clinical trials. Management analyzes historical and prospective usage to estimate obsolescence and did not record any reserve for obsolescence during the three and nine month periods ended September 30, 2016 . Additionally, management has estimated supply usage in the next twelve months to determine the balance sheet classification between current and non-current.

*Property and Equipment* – Property and equipment are stated at cost and depreciated using the straight-line method based on the estimated useful lives (generally three to five years ) of the related assets. Computer and computer equipment are depreciated over three years . Management continuously monitors and evaluates the realizability of recorded long-lived assets to determine whether their carrying values have been impaired. The Company records impairment losses on long-lived assets used in operations when events and circumstances indicate that the assets might be impaired and the nondiscounted cash flows estimated to be generated by those assets are less than the carrying amount of those assets. Any impairment loss is measured by comparing the fair value of the asset to its carrying amount. Repairs and maintenance costs are expensed as incurred.

*Research and Development Costs* – Research and development expenses consist of costs incurred for direct research and development and are expensed as incurred.

*Stock Based Compensation* – The Company records the cost for all share-based payment transactions in the Company's consolidated financial statements. Stock option grants issued to employees and officers and directors were valued using the Black-Scholes pricing model.

Fair value was estimated at the date of grant using the following weighted average grant date assumptions:

| | Nine Months Ended September 30, 2016 | Nine Months Ended September 30, 2015 |
|---|---|---|
| Risk-free interest rate | 1.3% | 1.8% |
| Expected dividend yield | None | None |
| Expected life | 6.0 years | 6.5 years |
| Expected volatility | 82.7% | 93.8% |
| Expected forfeitures | —% | —% |

The risk-free interest rate used is based on the implied yield currently available in U.S. Treasury securities at maturity with an equivalent term. The Company has not declared or paid any dividends and does not currently expect to do so in the future. The expected term of options represents the period that our stock-based awards are expected to be outstanding and was determined based on projected holding periods for the remaining unexercised options. Consideration was given to the contractual terms of our stock-based awards, vesting schedules and expectations of future employee behavior. The expected volatility is based upon the historical volatility of the Company's common stock. Forfeitures are accounted for when they occur.

The Company's stock price volatility and option lives involve management's best estimates, both of which impact the fair value of the option calculated and, ultimately, the expense that will be recognized over the life of the option.

When options are exercised, our policy is to issue reserved but previously unissued shares of common stock to satisfy share option exercises. As of September 30, 2016 , the Company had 21,855,320 shares of authorized and unreserved common stock.

No tax benefits were attributed to the stock-based compensation expense because a valuation allowance was maintained for all net deferred tax assets.

*Income Taxes* – The Company accounts for federal and state income taxes under the liability method, with a deferred tax asset or liability determined based on the difference between the financial statement and tax basis of assets and liabilities, as measured by the enacted tax rates. The Company's provision for income taxes represents the amount of taxes currently payable, if any, plus the change in the amount of net deferred tax assets or liabilities. A valuation allowance is provided against net deferred tax assets if recoverability is uncertain on a more likely than not basis. As of September 30, 2016 and December 31, 2015 , the Company fully reserved its deferred tax assets. The Company recognizes in its financial statements the impact of an uncertain tax position if the position will more likely than not be sustained upon examination by a taxing authority, based on the technical merits of the position. The Company's policy is to recognize interest related to unrecognized tax benefits as interest expense and penalties as operating expenses. As of September 30, 2016 , the Company had no unrecognized tax benefits and as such, no liability, interest or penalties were required to be recorded. The Company does not expect this to change significantly in the next twelve months. The Company has determined that its main taxing jurisdictions are the United States of America and the State of California. The Company is not currently under examination by any taxing authority nor has it been notified of a pending examination. The Company's tax returns are generally no longer subject to examination for the years before December 31, 2010 for the state and December 31, 2011 for the federal taxing authority.

During 2014, the Company licensed the non-U.S. rights to a significant portion of its intellectual property to its Bermuda-based subsidiary for approximately $11.0 million . The fair value of the intellectual property rights was determined by an independent third party. The proceeds from this sale represented a gain for U.S. tax purposes and were offset by current year losses and net operating loss carryforwards. However, the Internal Revenue Service, or the IRS, or the California Franchise Tax Board, or the CFTB, could challenge the valuation of the intellectual property rights and assess a greater valuation, which would require the Company to utilize a larger portion, or all, of its available net operating losses. If an IRS or a CFTB valuation exceeds the available net operating losses, the Company would incur additional income taxes. The Company's ability to use its net operating losses is subject to the limitations of IRS Section 382, as well as expiration of federal and state net operating loss carryforwards .

*Fair Value of Financial Instruments* – The carrying amounts reported in the balance sheets for cash, cash equivalents, and accounts payable approximate their fair values due to their quick turnover. The fair value of warrant derivative liability is estimated using the Binomial Lattice option valuation model for warrants that not publicly traded. The Company determines the warrant derivative liability of its publicly traded warrants based upon the last trading price as of the balance sheet date.

Fair value for financial reporting is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The Company utilizes a fair value hierarchy which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The three levels of inputs that may be used to measure fair value are as follows:

Level 1—quoted prices in active markets for identical assets or liabilities

Level 2—quoted prices for similar assets and liabilities in active markets or inputs that are observable

Level 3—inputs that are unobservable (for example cash flow modeling inputs based on assumptions)

Warrant liabilities represent the only financial assets or liabilities recorded at fair value by the Company. The fair value of warrant liabilities is based on Level 1 or Level 3 inputs.

*Use of Estimates* – The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States requires management to make certain estimates and assumptions about the future outcome of current transactions which may affect the reporting and disclosure of these transactions. Accordingly, actual results could differ from those estimates used in the preparation of these consolidated financial statements.

*Reclassification* - Certain prior year amounts included in the prior year consolidated financial statements have been reclassified to conform to the current year presentation.

The following critical accounting policies affect the Company's more significant judgments and estimates used in the preparation of these consolidated financial statements:

*Stock-Based Compensation* - Stock-based compensation expense is estimated as of the grant date based on the fair value of the award and is recognized as expense over the requisite service period, which generally equals the vesting period, based on the number of awards that are expected to vest. Estimating the fair value for stock options requires judgment, including the expected term of the Company's stock options, volatility of the Company's stock, expected dividends, risk-free interest rates over the expected term of the options and the expected forfeiture rate. In connection with performance based programs, the Company makes assumptions principally related to the number of awards that are expected to vest after assessing the probability that certain performance criteria will be met.

*Warrant Liability* - The fair value of the Company's derivative warrants that are not traded on the NYSE MKT is estimated using the Binomial Lattice option valuation model. The use of the Binomial Lattice option valuation model requires estimates including the volatility of the Company's stock, risk-free rates over the expected term of warrants and early exercise of the warrants. The Company determines the warrant derivative liability of its publicly traded warrants based upon the last trading price as of the balance sheet date.

*Basic and Diluted Loss per Common Share* – Basic and diluted loss per common share are computed based on the weighted average number of common shares outstanding. Common share equivalents (which consist of options and warrants) are excluded from the computation, since the effect would be antidilutive. Common share equivalents which could potentially dilute earnings per share, and which were excluded from the computation of diluted loss per share, totaled 76,688,998 shares and 38,890,839 shares at September 30, 2016 and 2015 , respectively.

*Recently Issued Accounting Standards* – In August 2014 , the FASB issued ASU No. 2014-15, which applies to entities that have substantial doubt about their ability to continue as a going concern. This update requires management to assess the probability about the entity's ability to remain as a going concern for a period of one year from the date the financial statements are ready to be issued. Depending on management's conclusions about the entity's ability to remain as a going concern, the entity must make certain disclosures in its financial statements. This ASU is effective for annual periods beginning after December 15, 2016. The adoption of this ASU is not expected to have a material impact on the Company's consolidated results of operations, financial condition or liquidity.

In February 2016, the FASB issued ASU No. 2016-02, which requires lessees to recognize in the balance sheets, a liability to make lease payments (the lease liability) and a right-of-use asset representing its right to use the underlying asset for the lease term (the lease asset). For leases with a term of 12 months or less, a lessee is permitted to make an accounting policy election by class of underlying asset not to recognize lease assets and lease liabilities. In transition, lessees and lessors are required to recognize and measure leases at the beginning of the earliest period presented using a modified retrospective approach. This ASU is effective for fiscal years beginning after December 15, 2018. The adoption of this ASU is not expected to have a material impact on the Company's consolidated results of operations, finance condition or liquidity.

In March 2016, the FASB issued ASU No. 2016-09, which simplifies some of the rules relating to the accounting for stock options. Among other items, this update permits entities to account for stock option forfeitures when they occur unlike the current practice that requires estimation of forfeitures at the time off issuance. This ASU is effective for annual periods beginning after December 15, 2016, and early adoption is permitted. The Company has adopted this ASU, which has not had a material impact on the Company's consolidated results of operations, financial condition or liquidity.

Other recent accounting pronouncements issued by the FASB (including its Emerging Issues Task Force) and the Securities and Exchange Commission did not or are not believed by management to have a material impact on the Company's present or future consolidated financial statements.

**3. Property and Equipment**

Property and equipment consist of the following:

| | September 30, 2016 | December 31, 2015 |
|---|---|---|
| Computers | $ 70,960 | $ 66,945 |
| Research equipment | 305,066 | 305,066 |
| | 376,026 | 372,011 |
| Accumulated depreciation | (249,308) | (191,089) |
| | $ 126,718 | $ 180,922 |

Depreciation expense was $17,256 and $6,997 for the three months ended September 30, 2016 and 2015 , respectively. Additionally, depreciation expense was $58,219 and $20,282 for the nine months ended September 30, 2016 and 2015 , respectively.

**4. Related-Party Transactions**

**Cedars-Sinai Medical Center License Agreement**

Dr. John Yu, our Chief Scientific Officer and former interim Chief Executive Officer, is a neurosurgeon at Cedars-Sinai Medical Center (Cedars-Sinai).

On May 13, 2015, the Company entered into an Amended and Restated Exclusive License Agreement (the Amended License Agreement) with Cedars-Sinai. Pursuant to the Amended License Agreement, the Company acquired an exclusive, worldwide license from Cedars-Sinai to certain patent rights and technology developed in the course of research performed at Cedars-Sinai into the diagnosis of diseases and disorders in humans and the prevention and treatment of disorders in humans utilizing cellular therapies, including dendritic cell-based vaccines for brain tumors and other cancers and neurodegenerative disorders. Under the Amended License Agreement, the Company will have exclusive rights to, among other things, develop, use, manufacture, sell and grant sublicenses to the licensed technology.

The Company has agreed to pay Cedars-Sinai specified milestone payments related to the development and commercialization of ICT-107, ICT-121 and ICT-140. The Company will be required to pay to Cedars-Sinai $1.0 million upon first commercial sale of the Company’s first product. The Company will pay Cedars-Sinai single digit percentages of gross revenues from the sales of products and high-single digit to low-double digit percentages of the Company’s sublicensing income based on the licensed technology. During the nine months ended September 30, 2016 , the Company incurred $100,000 of licensing fees to Cedars-Sinai. No licensing fees were incurred during the nine months ended September 30, 2015 .

The Amended License Agreement will terminate on a country-by-country basis on the expiration date of the last-to-expire licensed patent right in each such country. Either party may terminate the Amended License Agreement in the event of the other party’s material breach of its obligations under the Agreement if such breach remains uncured 60 days after such party’s receipt of written notice of such breach. Cedars-Sinai may also terminate the Amended License Agreement upon 30 days’ written notice to the Company that a required payment by the Company to Cedars-Sinai under the Amended License Agreement is delinquent.

The Company has also entered into various sponsored research agreements with Cedars-Sinai and has paid an aggregate of approximately $1.2 million . The last agreement concluded on March 19, 2014 at an incremental cost of $126,237 . During the nine months ended September 30, 2016 and 2015 , Cedars-Sinai did not perform any research activities on behalf of the Company.

**5. Co mmitments and Contingencies**

**SEC Investigation**

The Company has agreed in principle with the staff of the SEC on a proposed settlement framework related to an investigation principally of the Company's former Chief Executive Officer involving conduct between November 2011 and August 2012 regarding the publication of articles without disclosing that they were paid for by the Company or investor relations firms hired by the Company. The Company would consent to the entry of an administrative order requiring that it cease and desist from any future violations of Sections 5, 17(a), and 17(b) of the Securities Act of 1933, as amended, and

Section 10(b) of the Securities Exchange Act of 1934, as amended, subject to approval by the Commissioners of the SEC, without admitting or denying any allegations. The proposed settlement also involves the adoption of certain corporate governance amendments to the Company's policies and practices, in particular as it relates to the retention of investor relations and public relations firms. The proposed settlement is contingent upon execution of a formal offer of settlement and approval by the Commissioners of the SEC, neither of which can be assured. Based upon the settlement framework with the staff of the SEC, the Company has not accrued and does not currently expect to accrue a liability related to this matter. However, any final settlement must be approved by the Commission. If the Commission does not approve the settlement, the Company may need to enter into further discussions with the SEC to resolve the investigated matters on different terms and conditions. As a result, there can be no assurance as to the final terms of any settlement including its financial impact or any future adjustment to the financial statements.

**Commitments**

In an effort to expand the Company's intellectual property portfolio to use antigens to create personalized vaccines, the Company has entered into various intellectual property and research agreements. Those agreements are long-term in nature and are discussed below. In addition to the vendors described below, the Company has deposits with other vendors.

**Sponsored Research Agreements**

In an effort to expand the Company's intellectual property portfolio to use antigens to create personalized immunotherapies, the Company has entered into various intellectual property and research agreements. Those agreements are long-term in nature and are discussed below.

*Novella Clinical LLC*

On June 30, 2015, the Company entered into a Master Clinical Research Services Agreement with Novella Clinical LLC (Novella Clinical) to conduct the Phase 3 registration trial of IC T-107. Novella Clinical is a full-service, global clinical research organization providing clinical trial services to small and mid-sized oncology companies. Novella Clinical will supervise the trial in the United States, Europe and Canada and will recruit 414 patients with newly diagnosed glioblastoma. As of September 30, 2016 , the Company has deposits of $3,233,108 with Novella Clinical that will be applied against the final trial related invoices. Since the trial is not expected to be completed within the next twelve months, this amount is included in deposits and reflected as a non-current asset on the September 30, 2016 balance sheet. The Company may terminate this agreement upon 60 days ' notice.

*ICON (formerly known as Aptiv Solutions)*

The Company has contracted with ICON to provide certain services related to the Company's IC T-107 Phase 2 tri al. The original agreement was entered into in August of 2010. On September 17, 2013, the Company entered into a Master Services Agreement with ICON to provide certain services related to the Company's products under development. Simultaneously, the Company and ICON entered into Project Agreement Numb er 1 for the ICT-140 Phase 2 tri al that provides for payments of approximately $2.7 million until completion of the services described therein. On May 6, 2014, the Company and ICON entered into Amendment # 1 to Project Agreement Number 1 t o amend the project schedule and provide additional services for an additional fee of $170,004 . On August 21, 2014, the Company and ICON entered into Amendment #2 to Pr oject Agreement Numbe r 1to amend the project schedule and replace the aggregate budget. The total aggregate fee pursuant to the original agreement and the two modifications is $3.5 million . Currently, the Company has suspended development of I CT-140 and, therefore, there is no ongoing commitment related to this program. On July 17, 2014, the Company and ICON entered into Project Agreement CD -133 for the ICT-121 Phase 1 tr ial that provides for payments of approximately $2.3 million until completion of the services described therein. As of September 30, 2016 , the Company has deposits of $308,224 with ICON that are included in other current assets. The Company may terminate this trial upon 60 days ' notice.

**Licensing Agreements**

*The Johns Hopkins University Licensing Agreement*

On February 23, 2012, the Company entered into an Exclusive License Agreement, effective as of February 16, 2012, with The Johns Hopkins University (JHU) under which it received an exclusive, worldwide license to JHU's rights in and to certain intellectual property related to mesothelin-specific cancer immunotherapies. The Company is advancing a cancer immunotherapy program using JHU and other intellectual property according to commercially reasonable development

timeline. If successful and a product ultimately is registered, the Company will either sell the product directly or via a third-party partnership.

Pursuant to the License Agreement, the Company agreed to pay an upfront licensing fee in the low hundreds of thousands of dollars, payable half in cash and half in shares of its common stock in two tranches, within 30 days of the effective date of the License Agreement and upon issuance of the first U.S. patent covering the subject technology. Annual minimum royalties or maintenance fees increase over time and range from low tens of thousands to low hundreds of thousands of dollars. In addition, the Company has agreed to pay milestone license fees upon completion of specified milestones, totaling single digit millions of dollars if all milestones are met. Royalties based on a low single digit percentage of net sales are also due on direct sales, while third party sublicensing payments will be shared at a low double digit percentage.

The Company and JHU each have termination rights that include termination for any reason and for reasons relating to specific performance or financial conditions. Effective September 24, 2013, the Company entered into an Amendment No. 1 to the Exclusive License Agreement that updated certain milestones. Effective August 7, 2015, the Company entered into a Second Amendment to the Exclusive License Agreement that amended certain sections of the License Agreement and further updated certain milestones.

*Torrey Pines*

On October 1, 2012, the Company entered into a Contract Services Agreement with Torrey Pines under which the Company has engaged Torrey Pines to determine the immunogenicity of c ertain peptides that are used in conjunction with the Company's ICT-107 Phase 2 trial and in the development of ICT-140. The Company agreed to pay an upfront nonrefundable and noncreditable fee and is obligated to pay the remainder at the conclusion of the contract. On April 1, 2013, the Company and Torrey Pines expanded the scope of work to be completed by Torrey Pines under an additional Contract Services Agreement. This supplemental agreement provided for the Company to pay an upfront fee and additional fees at the conclusion of the contract. On April 1, 2014, the Company and Torrey Pines entered into an Amended and Restated Contract Services Agreement for Torrey Pines to perform certain additional services in connection with the Company's vaccine technologies.

*California Institute of Technology*

On September 9, 2014, the Company entered into an Exclusive License Agreement with the California Institute of Technology under which the Company acquired exclusive rights to novel technology for the development of certain antigen specific stem cell immunotherapies for the treatment of cancers.

Pursuant to the License Agreement, the Company agreed to pay a one time license fee, a minimum annual royalty based on a low single digit percentage of net revenues and an annual maintenance fee in the low tens of thousands of dollars. In addition, the Company has agreed to make certain milestone payments upon completion of specified milestones.

*Cedars-Sinai Medical Center*

In connection with the Cedars-Sinai Medical Center License Agreement and sponsored research agreement, the Company has certain commitments as described in Note 4.

**Manufacturing**

*PharmaCell B.V.*

In March 2015, the Company entered into an Agreement for GMP manufacturing of ICT-107 with PharmaCell B.V. (PharmaCell), pursuant to which PharmaCell will provide contract manufacturing services for the European production of ICT-107, a dendritic cell immunotherapy for the treatment of newly diagnosed glioblastoma.

The Company will pay for manufacturing services performed by PharmaCell under the Agreement pursuant to statements of work entered into from time to time. The Company may unilaterally terminate the Agreement upon 90 days' written notice to PharmaCell, or 30 days ' written notice in the event of a clinical hold or other suspension or early termination of a clinical trial. PharmaCell may terminate the Agreement in certain circumstances upon 90 days ' written notice to the Company. Either party may terminate the Agreement in the event of the other party's insolvency or for the other party's material breach of its obligations under the Agreement if such breach remains uncured after 30 days of receiving written notice

of such breach. Absent early termination, the Agreement will continue until all services under applicable statements of work have been completed.

*PCT, LLC*

On June 11, 2015, the Company entered into a Services Agreement with PCT, LLC, a Caladrius Company (PCT), a subsidiary of Caladrius Biosciences, Inc.

Pursuant to the terms of the Agreement, PCT will provide current good manufacturing practice (cGMP) services for the Phase 3 manufacture of ICT-107 and Phase 1manufacture of ICT-121. P CT will provide, among other things, a controlled environment room on a semi-dedicated basis and qualified personnel to conduct runs as the parties mutually agree in writing and schedule. PCT's facilities are registered with the FDA for testing; packaging; processing; storage; labeling and distribution of Peripheral Blood stem and Somatic Cell therapy products, and maintain cGMP-compliant quality systems.

The Company has agreed to pay monthly fees in connection with the use of a controlled environment room on a semi-dedicated basis and monthly fees for PCT personnel performing services under the Agreement.

Services to be performed under the Agreement terminate on the earlier of (i) December 31, 2018, (ii) the date the parties mutually agree, (iii) at any time following the earlier of the one year anniversary of the date on which the Company notifies PCT that services in the semi-dedicated controlled environment room are to commence and August 1, 2016, on the last day of the month following at leas t 120 days' written notice from the Company to PCT, or (iv) the last day of the month following at least 60 days' written notice from the Company to PCT that the Company has received a clinical hold issued by the FDA ordering the Company to suspend clinical trials for ICT-107. Either party may terminate the Agreement in the event of the other party's insolvency or for the other party's material breach of its obligations under the Agreement if such breach remains uncured after 30 days of receiving written notice of such bre ach.

**Employment Agreements**

The Company has employment agreements with its management that provide for a base salary, bonus and stock option grants. The aggregate annual base salary payable to this group is approximately $1.3 million and the potential bonus is approximately $450,000 . During the nine months ended September 30, 2016 , the Company issued options to purchase an aggregate of 825,000 shares of common stock to its management at a weighted average exercise price of $0.33 that vest over a period of 4 years . Additionally, during the nine months ended September 30, 2016 , the Company issued 285,000 restricted stock units of the Company's common stock that will vest in March 2018.

**Operating Lease**

The Company entered into a lease for office space effective June 15, 2013 and continuing through August 31, 2016 at an initial monthly rental of $8,063 . During 2016, the Company extended this lease through August 31, 2017 , at a monthly rental of $8,554 . Rent expense was approximately $81,000 and $75,000 for the nine months ended September 30, 2016 and 2015 , respectively.

Future minimum rentals under the operating lease are as follows:

| Years ending December 31, | Amount |
|---|---|
| 2016 | $ 25,662 |
| 2017 | 68,432 |
| Total | $ 94,094 |

**6. Shareholders' Equity**

**Underwritten Public Offering**

In August 2016, the Company entered into an underwriting agreement with Maxim Group LLC, pursuant to which the Company received net proceeds of approximately $6.6 million (after deducting the underwriting discount and offering expenses) from the initial sale of 34.6 million shares of the Company's common stock, base warrants to purchase 35,250,000 shares of common stock at an exercise price of $0.1921 per share, and pre-funded warrants to purchase 12,450,000 shares of

common stock at an exercise price of $0.01 per share. The underwriters partially exercised their option to purchase additional shares and warrants and purchased an additional 1,500,000 shares of the Company's common stock at a price of $0.15 per share and warrants to purchase 4,478,625 shares of common stock at an exercise price of $0.01 per warrant. The pre-funded warrants have a term of ten years , and the base warrants have a term of five years from the date of issuance. They also provide for a weighted average adjustment to the exercise price if the Company issues, or is deemed to issue, additional shares of common stock at a price per share less than the then effective price of the warrants, subject to certain exceptions (see "Warrant Liability" below). Due to the potential variability of their exercise price, these warrants do not qualify for equity treatment, and therefore are recognized as a liability. The pre-funded warrants were substantially paid for at the time of the offering and have an exercise price of $0.01 per share. These warrants qualify for equity treatment. Through September 30, 2016 , 8,350,000 pre-funded warrants were exercised and resulted in proceeds to the Company of $83,500 .

In February 2015, the Company raised approximately $14,500,000 (after commissions and offering expenses) from the sale of 26,650,000 shares of common stock and warrants to purchase 18,655,000 shares of common stock at an exercise price of $0.66 per share, to various investors in an underwritten public offering. Each unit was priced at $0.60 . The warrants have a term of 60 months from the date of issuance. The warrants also provide for a weighted average adjustment to the exercise price if the Company issues or is deemed to issue additional shares of common stock at a price per share less than the then effective price of the warrants, subject to certain exceptions (see "Warrant Liability" below).

**Controlled Equity Offering**

On April 18, 2013, the Company entered into a Controlled Equity Offering [SM] Sales Agreement (the Sales Agreement) with Cantor Fitzgerald & Co. (Cantor), as agent, pursuant to which the Company may offer from time to time through Cantor, shares of our common stock having an aggregate offering price of up to $25.0 million (of which only $17.0 million was initially registered for offer and sale). Under the Sales Agreement, Cantor may sell shares by any method permitted by law and deemed to be an "at-the-market" offering as defined in Rule 415 promulgated under the Securities Act, as amended, including sales made directly on the NYSE MKT, on any other existing trading market for our common stock or to or through a market maker. The Company may instruct Cantor not to sell shares if the sales cannot be effected at or above the price designated by us from time to time. The Company is not obligated to make any sales of the shares under the Sales Agreement. The offering of shares pursuant to the Sales Agreement will terminate upon the earlier of (a) the sale of all of the shares subject to the Sales Agreement or (b) the termination of the Sales Agreement by Cantor or the Company, as permitted therein. Cantor will receive a commission rate of 3.0% of the aggregate gross proceeds from each sale of shares and the Company has agreed to provide Cantor with customary indemnification and contribution rights. The Company will also reimburse Cantor for certain specified expenses in connection with entering into the Sales Agreement. On April 22, 2013, NYSE MKT approved the listing of 10,593,220 shares of our common stock in connection with the Sales Agreement. As of September 21, 2015, the registration statement previously filed with the SEC to facilitate the sale of registered shares of the Company's common stock under the Controlled Equity Offering expired. The Company filed a new registration statement with the SEC that was declared effective on January 19, 2016 to facilitate the sale of additional shares under the Controlled Equity Offering. Under the terms of the prospectus, the Company may sell up to $15,081,494 of the Company's common stock through the aforementioned Controlled Equity Offering. Pursuant to Instruction I.B.6 to Form S-3 (the Baby Shelf Rules), the Company may not sell more than the equivalent of one-third of its public float during any 12 consecutive months so long as the Company's public float is less than $75 million . During the nine months ended September 30, 2016 , the Company sold 3,085,653 shares of common stock that resulted in net proceeds of $691,187 , of which $48,977 represented the recovery of deferred offering costs that had been incurred as of December 31, 2015 . Subsequent to June 30, 2016, the Company completed an underwritten public offering. As a condition of the offering, the Company agreed not to sell shares pursuant to the Controlled Equity Offering for a period of 60 days after closing. At September 30, 2016 , the Company had $14.3 million available to be sold under the Sales Agreement.

**Stock Options**

In February 2005, the Company adopted an Equity Incentive Plan (the Plan). Pursuant to the Plan, a committee appointed by the Board of Directors may grant, at its discretion, qualified or nonqualified stock options, stock appreciation rights and may grant or sell restricted stock to key individuals, including employees, nonemployee directors, consultants and advisors. Option prices for qualified incentive stock options (which may only be granted to employees) issued under the plan may not be less than 100% of the fair value of the common stock on the date the option is granted (unless the option is granted to a person who, at the time of grant, owns more than 10% of the total combined voting power of all classes of stock of the Company; in which case the option price may not be less than 110% of the fair value of the common stock on the date the option is granted). Option prices for nonqualified stock options issued under the Plan are at the discretion of the committee and may be equal to, greater or less than fair value of the common stock on the date the option is granted. The options vest over periods determined by the Board of Directors and are exercisable no later than ten years from date of grant (unless they are qualified incentive stock options granted to a person owning more than 10% of the total combined voting power of all classes of stock of the Company, in which case the options are exercisable no later than five years from date of grant). Initially, the Company reserved 6,000,000 shares of common stock for issuance under the Plan, which was subsequently increased by the Company's shareholders to 12,000,000 shares. Options to purchase 4,636,479 common shares have been granted under the Plan and are outstanding as of September 30, 2016 . Additionally, 260,000 shares of restricted common stock have been granted to management and 40,000 shares of restricted common stock have been granted to members of the Company’s Board of Directors under the Plan. This plan expired in January 2016.

On March 11, 2016, the Company's Board of Directors adopted the 2016 Equity Incentive Plan (the 2016 Plan) and reserved 10,000,000 shares of common stock for issuance under the 2016 Plan. The 2016 Plan was approved by the Company's stockholders at its 2016 Annual Meeting of Stockholders. During the nine months ended September 30, 2016 , the Company’s Board of Directors granted 1,937,750 stock options and 314,500 restricted stock units to certain directors, officers and employees. The options have an exercise price equal to the closing stock price on the date of grant. The stock options vest over a period of four years and the restricted stock units vest over a period of two years .

The following table summarizes stock option activity for the Company during the nine months ended September 30, 2016 :

| | Options | Weighted Average Exercise Price | Weighted Average Remaining Contractual Term | Aggregate Intrinsic Value |
|---|---|---|---|---|
| Outstanding December 31, 2015 | 10,719,904 | $ 1.18 | — | — |
| Granted | 1,937,750 | $ 0.29 | — | — |
| Exercised | — | $ — | — | — |
| Forfeited or expired | (217,630) | $ 1.45 | — | — |
| Outstanding September 30, 2016 | 12,440,024 | $ 1.04 | 3.49 | $ — |
| | | | | |
| Vested at September 30, 2016 | 9,131,823 | $ 1.20 | 1.72 | $ — |

As of September 30, 2016 , the total unrecognized compensation cost related to unvested stock options amounted to $1.2 million , which will be recognized over the weighted average remaining requisite service period of approximately 20 months .

On March 11, 2016, the Company issued an aggregate of 314,500 restricted stock units to certain officers and employees. The shares will be fully vested on March 10, 2018. For accounting purposes, these shares were valued at $0.33 , which was the stock price on the date of grant, and will be expensed over the service period of two years from the date of grant.

**Warrants**

In connection with the sale of Preferred Stock in May 2010, the Company issued warrants to purchase 1,350,000 shares of the Company’s common stock at an exercise price of $2.50 . The warrants had a five -year term from the date of issuance. On May 16, 2015, the remaining warrants to purchase 1,290,996 shares of the Company’s common stock at $2.50 expired. (See “Warrant Liability” below.)

In connection with the February 2011 common stock private placement, the Company issued to the investors warrants to purchase 2,818,675 shares of the Company's common stock at $2.25 per share. The warrants had a five -year term from the date of issuance and contained a provision that provided for an adjustment to the exercise price in the event the Company completes an equity financing at a per share price of its common stock that is less than the adjusted exercise price. As a result of the January and October 2012 financings, the exercise price of the warrants was adjusted to $1.87 and the number of warrants was proportionately increased to 2,823,670 net of exercises. As a result of the February 2015 underwritten public offering, the exercise price of the warrants was adjusted to $1.44 and the number of warrants was proportionately increased to 3,666,836 . On February 24, 2016, the remaining warrants to purchase 3,666,836 shares of the Company's common stock expired (See "Warrant Liability" below).

In connection with the January 2012 underwritten public offering, the Company issued to the investors warrants to purchase 4,744,718 shares of the Company's common stock at $1.41 per share. The warrants have a five -year term from the date of issuance. These warrants qualify for equity treatment since they do not have any provisions that would require the Company to redeem them for cash or that would result in an adjustment to the number of warrants. As of September 30, 2016 , warrants to purchase 1,418,575 shares of the Company's common stock remain outstanding relating to this public offering.

In connection with the October 2012 underwritten public offering, the Company issued to the investors warrants to purchase 4,500,000 shares of the Company's common stock at $2.65 per share. The warrants have a five -year term from the date of issuance. These warrants qualify for equity treatment since they do not have any provisions that would require the Company to redeem them for cash or that would result in an adjustment to the number of warrants. As of September 30, 2016 , warrants to purchase 4,446,775 shares of the Company's common stock remain outstanding relating to this public offering.

In connection with the February 2015 underwritten public offering, the Company issued to the investors warrants to purchase 18,655,000 shares of the Company's common stock at $0.66 per share. The warrants have a five -year term from the date of issuance and contain a provision that provides for a proportional adjustment to the exercise price in the event the Company completes an equity financing at a per share price of its common stock that is less than the adjusted exercise price. Accordingly, these warrants do not qualify for equity treatment. During the nine months ended September 30, 2016 , the exercise price was adjusted to $0.50 to reflect the issuances pursuant to the Company's controlled equity and underwritten public offerings and the Company recorded a charge to financing expense of $142,788 . As of September 30, 2016 , warrants to purchase 18,655,000 shares of the Company's common stock remain outstanding relating to this public offering (See "Warrant Liability" below).

In connection with the August 2016 underwritten public offering, the Company issued to the investors warrants to purchase 39,728,625 shares of common stock with an initial exercise price of $0.1921 per share. The warrants have a five - year term from the date of issuance and contain a provision whereby the warrant exercise price would be decreased in the event that the certain future common stock issuances are made at a price less than $0.1921 . Due to the potential variability of their exercise price, these warrants do not qualify for equity treatment, and therefore are recognized as a liability. These warrants are traded on the NYSE MKT (symbol IMUC.WS). The Company initially valued these warrants using the closing warrant price on August 12, 2016, which was the first day the warrants were traded on the NYSE MKT.

Also, in connection with the August 2016 underwritten public offering, the Company issued pre-funded warrants to purchase 12,450,000 shares of common stock to certain investors. These pre-funded warrants were substantially paid for at the time of the offering, have a term of ten years term and an exercise price of $0.01 per share. During the quarter ended September 30, 2016, pre-funded warrants to purchase 8,350,000 shares of common stock were exercised and pre-funded warrants to purchase 4,100,000 shares of common stock remain outstanding as of September 30, 2016. These pre-funded warrants qualify for equity treatment since they do not have any provisions that would require the Company to redeem them for cash or that would result in an adjustment to the number of warrants.

**Warrant Liability**

The Company's warrant liability is adjusted to fair value each reporting period and is influenced by several factors including the price of the Company's common stock as of the balance sheet date. On September 30, 2016 , the price per share of Company's common stock was $0.12 per share compared to $0.36 per share at December 31, 2015.

In connection with the sale of Preferred Stock in May 2010, the Company issued to the investors warrants to purchase 1,350,000 shares of the Company's common stock at an exercise price of $2.50 per share. Of the total proceeds from the May 2010 preferred stock sale, $5,710,500 was allocated to the freestanding warrants associated with the units based upon the fair value of these warrants determined under the Black Scholes option pricing model. The warrants contained a provision whereby the warrant may be settled for cash in connection with a change of control with a private company. Due to the potential variability of their exercise price, these warrants did not qualify for equity treatment, and therefore were recognized as a liability. The warrant liability was adjusted to fair value each reporting period and any change in value was recognized in the statement of operations. Prior to 2011, the Company concluded that the Black-Scholes method of valuing the price adjustment feature does not materially differ from the valuation of such warrants using the Monte Carlo or binomial lattice simulation models, and therefore, the use of the Black-Scholes valuation model was considered a reasonable method to value the warrants. The assumptions used in the Black Scholes model for determining the initial fair value of the warrants were as follows: (i) dividend yield of 0% ; (ii) expected volatility of 102% , (iii) risk-free interest rate of 2.50% , and (iv) contractual life of 60 months . Effective January 1, 2011, the Company determined that it was more appropriate to value the warrants using a binomial lattice simulation model. During the three and nine months ended September 30, 2015 , the Company recorded a credit to other income of $7,746 to record the change in fair value of warrant liability. The remaining warrants expired during the three months ended June 30, 2015.

In connection with the February 2011 common stock private placement, the Company issued to the investors warrants to purchase 2,818,675 shares of the Company's common stock at $2.25 per share. Of the total proceeds from the February 2011 common stock private placement, $2,476,790 was allocated to the freestanding warrants associated with the units based upon the fair value of the warrants determined under the Binomial lattice model. The warrants contain a provision whereby the warrant exercise price would be decreased in the event that certain future common stock issuances are made at a price less than $1.55 . Due to the potential variability of their exercise price, these warrants do not qualify for equity treatment, and therefore are recognized as a liability. As a result of the January and October 2012 financings and shares sold through the Company's Controlled Equity Offering during 2014, the exercise price of the warrants was adjusted to $1.79 and the number of warrants was proportionately increased to 2,949,867 , net of exercises. As a result of the Company's February 2015 underwritten public offering, the exercise price of the warrants was adjusted to $1.44 and the number of warrants was proportionately increased to 3,666,836 . The warrant liability is adjusted to fair value each reporting period, and any change in value is recognized in the statement of operations. The Company initially valued these warrants using a binomial lattice simulation model assuming (i) dividend yield of 0% ; (ii) expected volatility of 146% ; (iii) risk free rate of 1.96% and (iv) expected term of 5 years . Based upon those calculations, the Company calculated the initial valuation of the warrants to be $2,476,790 . For the three and nine months ended September 30, 2015, the Company recorded a credit to other income of $22,001 and $678,912 , respectively, to record the change in fair value of the warrant liability. The remaining warrants expired on February 24, 2016. The Company did not record a credit or charge to change in fair value of warrant liability in other income during the three and nine months ended September 30, 2016.

In connection with the February 2015 underwritten public offering, the Company issued to the investors warrants to purchase 18,655,000 shares of the Company's common stock at $0.66 per share. The warrants contain a provision whereby the warrant exercise price would be decreased in the event that certain future common stock issuances are made at a price less than $0.66 . During the nine months ended September 30, 2016 , the exercise price of these warrants was adjusted to $0.50 to reflect the issuance pursuant to the Company's controlled equity offering and underwritten public offerings. Due to the potential variability of their exercise price, these warrants do not qualify for equity treatment, and therefore are recognized as a liability. The Company initially valued these warrants using a binomial lattice simulation model assuming (i) dividend yield of 0% ; (ii) expected volatility of 97.0% ; (iii) risk free rate of 1.53% and (iv) expected term of 5 years . Based upon these calculations, the Company calculated the initial valuation of the warrants to be $4,197,375 . For the three and nine months ended September 30, 2015 , the Company recorded a credit to other income of $317,135 and $1,641,640 , respectively. As of September 30, 2016 , the Company revalued the warrants using the binomial lattice simulation model assuming (i) dividend yield of 0% ; (ii) expected volatility of 87% ; (iii) risk free rate of 0.93% and (iv) expected term of 3.36 years . For the three and nine months ended September 30, 2016 , the Company recorded a credit to other income of $820,447 and $1,747,118 , respectively to record the change in fair value of the warrant liability. As of September 30, 2016 , the carrying value of the warrant liability is $354,445 .

In connection with the August 2016 underwritten public offering, the Company issued to the investors warrants to purchase 39,728,625 shares of common stock with an initial exercise price of $0.1921 per share. The warrants contain a provision whereby the warrant exercise price would be decreased in the event that the certain future common stock issuances are made at a price less than $0.1921 . Due to the potential variability of their exercise price, these warrants do not qualify for equity treatment, and therefore are recognized as a liability. These warrants are traded on the NYSE MKT (symbol IMUC.WS). The Company initially valued these warrants using the closing warrant price on August 12, 2016 ( $0.0575 ), which

was the first day the warrants were traded on the NYSE MKT. Accordingly, the Company allocated $2,284,395 of the total proceeds from the August 2016 offering to the base warrants. As of September 30, 2016 , the warrants were valued using the last trading price during the quarter ( $0.05 ), accordingly, the warrant liability was adjusted to $1,986,431 and the Company recorded a credit to other income of $297,964 .

Volatility has been estimated using the historical volatility of the Company's stock price.

The following reconciliation of the beginning and ending balances for all warrant liabilities measured at fair market value on a recurring basis during the nine months ended September 30, 2016 and 2015 :

| | September 30, 2016 | September 30, 2015 |
|---|---|---|
| Balance – January 1 | $ 1,958,775 | $ 597,719 |
| Issuance of warrants and effect of repricing | 2,427,183 | 4,286,314 |
| Exercise of warrants | — | — |
| (Gain) or loss included in earnings | (2,045,082) | (2,328,298) |
| Balance – September 30 | $ 2,340,876 | $ 2,555,735 |

Additionally , during the nine months ended September 30, 2016 and 2015 , the Company recorded a charge to financing expense of $142,788 and $88,939 , respectively, to reflect the repricing of previously issued warrants **.**

**7. California Institute of Regenerative Medicine Award**

On September 18, 2015 the Company received an award in the amount of $19.9 million from the California Institute of Regenerative Medicine (CIRM) to partially fund the Company's Phase 3 trial of ICT-107. The award originally provided for a $4 million project initial payment that was received during the fourth quarter of 2015, and up to $15.9 million in future milestone payments that are primarily dependent on patient randomization in the ICT-107 Phase 3 trial. In August, the Company and CIRM modified the award such that the Company received an additional $1.5 million initial payment. The total amount of the award and other award conditions remain unchanged. Under the terms of the CIRM award, the Company is obligated to share future ICT-107 related revenue with CIRM. The percentage of revenue sharing is dependent on the amount of the award received by the Company and whether the revenue is from product sales or license fees. The maximum revenue sharing amount the Company may be required to pay to CIRM is equal to nine ( 9 ) times the total amount awarded and paid to the Company. The Company has the option to decline any and all amounts awarded by CIRM. As an alternative to revenue sharing, the Company has the option to convert the award to a loan, which such option the Company must exercise on or before ten (10) business days after the FDA notifies the Company that it has accepted the Company's application for marketing authorization. In the event the Company exercises it right to convert the award to a loan, it will be obligated to repay the loan within ten (10) business days of making such election, including interest at the rate of the three-month LIBOR rate ( 0.85% as of September 30, 2016 ) plus 25% per annum. Since the Company may be required to repay some or all of the amounts awarded by CIRM, the Company accounts for this award as a liability rather than revenue. If the Company was to lose this funding, it may be required to delay, postpone, or cancel its clinical trials or otherwise reduce or curtail its operations unless it is able to obtain adequate financing for its clinical trials from additional sources. For the three and nine months ended September 30, 2016 , the Company accrued interest of $342,323 and $889,146 , respectively.

**8. 401(k) Profit Sharing Plan**

During 2011, the Company adopted a Profit Sharing Plan that qualifies under Section 401(k) of the Internal Revenue Code. Contributions to the plan are at the Company's discretion. The Company did not make any matching contributions during the nine months ended September 30, 2016 or September 30, 2015 .

**9. Income Taxes**

Deferred taxes represent the net tax effects of the temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes. Temporary differences result primarily from the recording of tax benefits of net operating loss carry forwards and stock-based compensation.

A valuation allowance is required if the weight of available evidence suggests it is more likely than not that some portion or all of the deferred tax asset will not be recognized. Accordingly, a valuation allowance has been established for the full amount of the deferred tax assets.

The Company's effective income tax rate differs from the amount computed by applying the federal statutory income tax rate to loss before income taxes as follows:

| | September 30, 2016 | September 30, 2015 |
|---|---|---|
| Income tax benefit at the federal statutory rate | (34)% | (34)% |
| State income tax benefit, net of federal tax benefit | (6)% | (6)% |
| Change in fair value of warrant liability | 7 % | 12 % |
| Change in valuation allowance for deferred tax assets | 33 % | 28 % |
| Total | — % | — % |

Deferred taxes consisted of the following:

| | September 30, 2016 | December 31, 2015 |
|---|---|---|
| Net operating loss carryforwards | 25,136,992 | 20,091,036 |
| Stock-based compensation | 2,903,078 | 2,599,308 |
| Less valuation allowance | (28,040,070) | (22,690,344) |
| Net deferred tax asset | $ — | $ — |

The valuation allowance increased by $5,349,725 and $4,165,567 during the nine months ended September 30, 2016 and 2015 , respectively.

As of December 31, 2015 , the Company had federal and California income tax net operating loss carry forwards of approximately $50.1 million , and as of September 30, 2016 , management has estimated federal and California income tax net operating loss carry forwards of approximately $62.8 million . These federal and California net operating losses will begin to expire in 2022 and 2016 , respectively, unless previously utilized.

Section 382 of the Internal Revenue Code can limit the amount of net operating losses which may be utilized if certain changes to a company's ownership occur. While the Company underwent an ownership change in 2012 as defined by Section 382 of the Internal Revenue Code, management estimated that the Company had not incurred any limitations on its ability to utilize its net operating losses under Section 382 of the Internal Revenue Code during 2012. The Company may incur limitations in the future if there is a change in ownership as computed under the prescribed method of the Internal Revenue Code.

During the fourth quarter of 2014, the Company licensed the non-U.S. rights to a significant portion of its intellectual property to its Bermuda-based subsidiary for approximately $11.0 million . The fair value of the intellectual property rights was determined by an independent third party. The proceeds from this sale represent a gain for U.S. tax purposes and are offset by current year losses and net operating loss carryforwards. However, the Internal Revenue Service, or the IRS, or the California Franchise Tax Board, or the CFTB, could challenge the valuation of the intellectual property rights and assess a greater valuation, which would require the Company to utilize a portion, or all, of its available net operating losses. If an IRS or a CFTB valuation exceeds the available net operating losses, the Company would incur additional income taxes. The Company's ability to use its net operating losses is subject to the potential future limitations of IRS Section 382, as well as expiration of federal and state net operating loss carryforwards.

**Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations**

*Throughout this Quarterly Report on Form 10-Q, the terms "we," "us," "our," and "our company" refer to ImmunoCellular Therapeutics, Ltd., a Delaware corporation and its subsidiaries.*

**Cautionary Statement Regarding Forward-Looking Statements**

*This Quarterly Report contains forward-looking statements, which reflect the views of our management with respect to future events and financial performance. These forward-looking statements are subject to a number of uncertainties and other factors*

*that could cause actual results to differ materially from such statements. Forward-looking statements are identified by words such as "anticipates," "believes," "estimates," "expects," "plans," "projects," "targets" and similar expressions. Readers are cautioned not to place undue reliance on these forward-looking statements, which are based on the information available to management at this time and which speak only as of this date. We undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. For a discussion of some of the factors that may cause actual results to differ materially from those suggested by the forward-looking statements, please read carefully the information under the heading "Risk Factors" in our Form 10-K for the year ended December 31, 2015 and in this quarterly report on Form 10-Q. The identification in this Quarterly Report of factors that may affect future performance and the accuracy of forward-looking statements is meant to be illustrative and by no means exhaustive. All forward-looking statements should be evaluated with the understanding of their inherent uncertainty.*

**Overview**

ImmunoCellular Therapeutics, Ltd. and its subsidiaries (the Company) is a biotechnology company that is seeking to develop and commercialize new therapeutics to fight cancer using the immune system.

The Company has been primarily engaged in the acquisition of certain intellectual property, together with development of its product candidates and the recent clinical testing for its immunotherapy product candidates, and has not generated any recurring revenues. We have begun Phase 3 testing of out lead product candidate, ICT-107, in which we originally anticipated randomizing 414 patients at about 120 clinical sites in the United States, Canada and Europe. The Company is preparing an amendment to the Phase 3 protocol for submission to the FDA and other regulators that, once submitted and accepted, will modify some elements of how patients qualify for the trial, raise the target number of randomized patients to at least 500, and result in a potential 12-18 month extension to the time to complete the trial. We have two other product candidates, ICT-140 and ICT-121, both with investigational new drug (IND) applications active at the US Food and Drug Administration (FDA). During the third quarter of 2016, the Company completed its enrollment of ICT-121. We are holding the initiation of ICT-140 trial until we can find a partner for the program to share expenses or until we have secured sufficient financial resources to complete the ICT-107 Phase 3 program. Additionally, the Company has acquired the rights to technology for the development of certain stem cell immunotherapies for the treatment of cancer. We have incurred operating losses and, as of September 30, 2016 , we have an accumulated deficit of $89,898,481 . We expect to incur significant research, development and administrative expenses before any of its products can be launched and recurring revenues generated.

**Critical Accounting Policies**

Management's discussion and analysis of our financial condition and results of operations are based on our condensed consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these consolidated financial statements requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an ongoing basis, management evaluates its estimates, including those related to impairment of long-lived assets, including finite lived intangible assets, accrued liabilities, fair value of warrant derivatives and certain expenses. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ materially from these estimates under different assumptions or conditions.

Our significant accounting policies are summarized in Note 2 of our condensed consolidated financial statements. We believe the following critical accounting policies affect our more significant judgments and estimates used in the preparation of our consolidated financial statements:

***Research and Development Costs***

Although we believe that our research and development activities and underlying technologies have continuing value, the amount of future benefits to be derived from them is uncertain. Research and development costs are expensed as incurred. During the nine months ended September 30, 2016 and 2015 , we recorded an expense of $13,734,693 and $7,028,242, respectively, related to research and development activities.

***Stock-Based Compensation***

Stock-based compensation expense is estimated as of the grant date based on the fair value of the award and is recognized as expense over the requisite service period, which generally equals the vesting period, based on the number of

awards that are expected to vest. Estimating the fair value for stock options requires judgment, including the expected term of our stock options, volatility of our stock, expected dividends, risk-free interest rates over the expected term of the options and the expected forfeiture rate. In connection with our performance based programs, we make assumptions principally related to the number of awards that are expected to vest after assessing the probability that certain performance criteria will be met.

***Income Taxes***

The Company accounts for federal and state income taxes under the liability method, with a deferred tax asset or liability determined based on the difference between the financial statement and tax basis of assets and liabilities, as measured by the enacted tax rates. The Company's provision for income taxes represents the amount of taxes currently payable, if any, plus the change in the amount of net deferred tax assets or liabilities. A valuation allowance is provided against net deferred tax assets if recoverability is uncertain on a more likely than not basis. The Company recognizes in its consolidated financial statements the impact of an uncertain tax position if the position will more likely than not be sustained upon examination by a taxing authority, based on the technical merits of the position. The Company's policy is to recognize interest related to unrecognized tax benefits as interest expense and penalties as operating expenses. The Company is not currently under examination by any taxing authority nor has it been notified of an impending examination. The Company's tax returns for the years ended December 31, 2012 to 2015, remain open for possible review.

***California Institute of Regenerative Medicine***

During 2015, the Company received an award from the California Institute of Regenerative Medicine (CIRM) of $19.9 million, of which $4 million was received by the Company during 2015, to partially fund the Company's Phase 3 trial of ICT-107. In August 2016, the Company and CIRM modified the award such that the Company received an additional $1.5 million initial payment. The total amount of the award and other conditions remain unchanged. Under the terms of the award, the Company is required to share future ICT-107 related revenue with CIRM. The percentage of revenue sharing is dependent on the amount of the award received by the Company and whether the revenue is from product sales or license fees. As an alternative to revenue sharing, the Company has the option to convert the award to a loan. In the event the Company exercises its right to convert the award to a loan, it will be obligated to repay the loan including interest at the rate of the three-month LIBOR rate ( 0.85% as of September 30, 2016 ) plus 25% per annum. Since the Company may be required to repay some or all of the amounts awarded by CIRM, the Company has accounted for this award as a liability rather than revenue. Additionally, the Company has accrued interest on the loan at the aforementioned rate.

***Fair Value of Financial Instruments***

The carrying amounts reported in the balance sheets for cash, cash equivalents, and accounts payable approximate their fair values due to their quick turnover. The fair value of warrant liability is estimated using the Binomial Lattice option valuation model.

**Results of Operations**

***Three months ended September 30, 2016 and 2015***

***Net Loss***

We incurred a net loss of $4,797,825 and $3,401,255 for the three months ended September 30, 2016 and 2015, respectively. The increase in the net loss is primarily due to an increase in research and development expenses related to the phase 3 trial of ICT-107 during the most recent quarter, partially offset by a credit to other income of $1,118,411 compared to a credit to other income of $339,136 in the same period last year to reflect the decrease in the warrant derivatives in the current quarter.

***Revenues***

We did not have any revenue during the three months ended September 30, 2016 and 2015 and we do not expect to have any revenue in 2016.

***Expenses***

Research and development expenses for the three months ended September 30, 2016 were $4,563,896 compared to $2,662,373 in the same period in 2015. During the quarter ended September 30, 2016, we incurred expenses related to the initiation of the Company's ICT-107 phase 3 trial. These expenses included patient screening and randomization of six patients. The Company continued to initiate sites in North America and Europe. Additionally, after liberalizing the enrollment criteria for ICT-121 we completed enrollment during the most recent quarter. We expect expenses related to ICT-107 and our stem cell program to increase in future periods as we progress in the ICT-107 Phase 3 trial and as we develop our stem cell immunotherapies. Our ICT-140 program remains on hold until we obtain financing sufficient to complete the ICT-107 trial or find a partner for this program.

General and administrative expenses for the three months ended September 30, 2016 and 2015 were $908,380 and $1,083,516, respectively. The decrease was primarily due to lower professional fees in the most recent quarter.

During the three months ended September 30, 2016, the we recorded a credit to other income of $1,118,411 to reflect the decrease in the warrant derivative liability. In the same quarter of last year, we recorded a credit of $339,136 to reflect the decrease in the warrant liability. The valuation of the warrant derivative is based upon several factors; however, the price of our common stock is a significant factor. As the price of our common stock has decreased over time, the warrant derivative liability has also decreased.

***Nine months ended September 30, 2016 and 2015***

***Net Loss***

We incurred a net loss of $15,760,741 and $7,980,831 for the nine months ended September 30, 2016 and 2015, respectively. The increase in the net loss reflects additional research and development expenses, primarily due to the initiation of the phase 3 trial of ICT-107.

***Revenues***

We did not have any revenue during the nine months ended September 30, 2016 and 2015 and we do not expect to have any revenue in 2016.

***Expenses***

Research and development expenses for the nine months ended September 30, 2016 and 2015 were $13,734,693 and $7,028,242, respectively. During the nine months ended September 30, 2016, we incurred expenses related to the initiation of the Company's ICT-107 phase 3 trial. These expenses included site initiations, technology transfer to Europe and regulatory submissions in Canada and eight European countries. We began patient screening and randomized six patients. Additionally, we liberalized the enrollment criteria for ICT-121 and completed patient enrollment. We expect these expenses to increase in future periods as we progress in the ICT-107 Phase 3 trial and as we develop our stem cell immunotherapies. Our ICT-140 program remains on hold until we obtain financing sufficient to complete the ICT-107 trial or find a partner for this program.

General and administrative expenses for the nine months ended September 30, 2016 and 2015 were $3,058,027 and $3,206,356, respectively. The decrease was primarily due to lower professional fees in 2016.

**Liquidity and Capital Resources**

As of September 30, 2016 , we had working capital of $15,232,902, compared to working capital of $22,291,140 as of December 31, 2015. We expect our expenses to continue at a similar pace during the remainder of 2016 and into 2017 primarily to fund the Phase 3 trial of ICT-107, and that we will not have enough cash resources to fund the business for the next 12 months. Successful completion of our research and development activities, and our transition to attaining profitable operations, is dependent upon obtaining financing. Additional financing may not be available on acceptable terms or at all. If we issue additional equity securities to raise funds, the ownership percentage of existing stockholders would be reduced. New investors may demand rights, preferences or privileges senior to those of existing holders of common stock. If we cannot raise funds, we might be forced to make substantial reductions in the on-going clinical trials, thereby damaging our reputation in the biotech

and medical communities which could adversely affect our ability to implement our business plan and our viability. These factors raise substantial doubt about our ability to continue as a going concern.

On September 18, 2015, we received an award in the amount of $19.9 million from the California Institute of Regenerative Medicine (CIRM) to partially fund our Phase 3 trial of ICT-107. The award provided an initial project payment in 2015 of $4 million and $15.9 million in future milestone payments that are primarily dependent on patient randomization. During the quarter ended September 30, 2016, the award was modified such that we received an additional $1.5 million in initial payment. The total amount of the award remains unchanged. We are obligated to share future ICT-107 related revenue with CIRM. The percentage of revenue sharing is dependent on the amount of the award received by us and whether the revenue is from product sales or license fees. The maximum revenue sharing amount we may be required to pay to CIRM is equal to nine times the total amount awarded and paid to us. We have the option to decline any and all amounts awarded by CIRM. As an alternative to revenue sharing, we have the option to convert the award to a loan. We may exercise this loan conversion option until ten business days after the FDA notifies us that it has accepted our application for marketing authorization. In the event we exercise our right to convert the award to a loan, we will be obligated to repay the loan within ten business days of making the election including interest at the rate of the three-month LIBOR rate ( 0.85% as of September 30, 2016 ) plus 25% per annum. Since we may be required to repay some or all of the amounts awarded by CIRM, we account for this award as a liability rather than revenue and accrue interest at the aforementioned rate.

In August 2016, we entered into an underwriting agreement with Maxim Group LLC, pursuant to which we received net proceeds of approximately $6.6 million (after deducting the underwriting discount and offering expenses) from the initial sale of 34,600,000 shares of the Company's common stock, base warrants to purchase 35,250,000 shares of common stock at an exercise price of $0.1921 per share, and pre-funded warrants to purchase 12,450,000 shares of common stock at an exercise price of $0.01 per share. The underwriters partially exercised their option to purchase additional shares and warrants, and purchased an additional 1.5 million shares of our common stock at a price of $0.15 per share and base warrants to purchase 4,478,625 shares of common stock at $0.01 per warrant. The pre-funded warrants have a term of ten years and the base warrants have a term of five years from the date of issuance. They also provide for a weighted average adjustment to the exercise price if we issue, or are deemed to issue, additional shares of common stock at a price per share less than the then effective price of the warrants, subject to certain exceptions. Accordingly, these warrants were accounted for as derivative liabilities and $2.0 million of the net proceeds was allocated to the warrant derivative and the remaining $4.6 million was allocated to equity. The pre-funded warrants were substantially paid for at the time of the offering and have an exercise price of $0.01 per share. Through September 30, 2016, 8,350,000 pre-funded warrants were exercised and resulted in proceeds to the Company of $83,500.

On February 12, 2015, we entered into an underwriting agreement with Roth Capital Partners, LLC, pursuant to we sold 26,650,000 shares of our common stock and warrants to purchase 18,655,000 shares of our common stock at a combined public offering price of $0.60 per share and accompanying warrant to purchase 0.70 of a share of our common stock. The resulting aggregate net proceeds from the offering was approximately $14.5 million, after deducting underwriting discounts and other offering expenses payable by us of approximately $1.5 million. The warrants have an exercise price of $0.66 per share and a term of 60 months from the date of issuance. The warrants provide for a weighted average adjustment to the exercise price if we issue or are deemed to issue additional shares of our common stock at a price per share less than the then effective exercise price of the warrants, subject to certain exceptions. Accordingly, these warrants have been accounted for as derivative liabilities and approximately $4.2 million of the net proceeds was allocated to the warrant derivative and the remaining $10.3 million was allocated to equity. During the nine months ended September 30, 2016, the exercise price was adjusted to $0.50 to reflect the issuances pursuant to the Company's August 2016 financing and the Controlled Equity Offering [sm].

On April 18, 2013, we entered into a Controlled Equity Offering [SM] Sales Agreement (the Sales Agreement) with Cantor Fitzgerald & Co. (Cantor), as agent, pursuant to which we may offer and sell, from time to time through Cantor, shares of our common stock having an aggregate offering price of up to $25.0 million (of which only $17.0 million was initially registered for offer and sale). Under the Sales Agreement, Cantor may sell shares by any method permitted by law and deemed to be an "at-the-market" offering as defined in Rule 415 promulgated under the Securities Act, as amended, including sales made directly on the NYSE MKT, on any other existing trading market for our common stock or to or through a market maker. We may instruct Cantor not to sell shares if the sales cannot be effected at or above the price designated by us from time to time. We are not obligated to make any sales of the shares under the Sales Agreement. The offering of shares pursuant to the Sales Agreement will terminate upon the earlier of (a) the sale of all of the shares subject to the Sales Agreement or (b) the termination of the Sales Agreement by Cantor or the Company, as permitted therein. We will pay Cantor a commission rate of 3.0% of the aggregate gross proceeds from each sale of shares and have agreed to provide Cantor with customary indemnification and contribution rights. We will also reimburse Cantor for certain specified expenses in connection with entering into the Sales Agreement. On April 22, 2013, NYSE MKT approved the listing of 10,593,220 shares of our common stock in connection with the Sales Agreement. Through September 30, 2016, we sold 8,363,909 shares of our common stock

under the Sales Agreement that resulted in proceeds to the Company of approximately $9,845,877. As of September 21, 2015, the registration statement previously filed with the SEC to facilitate the sale of registered shares of the Company's common stock under the Controlled Equity Offering expired. The Company filed a new registration statement with the SEC that was declared effective on January 19, 2016 to facilitate the sale of additional shares under the Controlled Equity Offering. Under the terms of the prospectus, the Company may sell up to $15,081,494 of the Company's common stock through the aforementioned Controlled Equity Offering. Pursuant to Instruction I.B.6 to Form S-3 (the Baby Shelf Rules) the Company may not sell more than the equivalent of one-third of its public float during any 12 consecutive months so long as the Company's public float is less than $75 million.

During the nine months ended September 30, 2016, the Company sold 3,085,653 shares of common stock that resulted in net cash proceeds of $691,187.

As of September 30, 2016 , we had no long-term debt obligations, no capital lease obligations, or other similar long-term liabilities, other than the CIRM award liability. We have various purchase commitments for sponsored research, which are generally cancelable upon 30 to 120 day notice, and license fees. We have no financial guarantees, debt or lease agreements or other arrangements that could trigger a requirement for an early payment or that could change the value of our assets, and we do not engage in trading activities involving non-exchange traded contracts.

We purchased in advance of the trial a significant portion of the supplies that will be used as part of the Phase 3 trial of ICT-107 as we determined that it was more economical to purchase these supplies in bulk from the manufacturer. Accordingly, these supplies have been capitalized on the balance sheet with those supplies that are expected to be used during the next twelve months included in current assets and the remainder as non-current assets. Peptides and LPS make up the majority of the supplies that have been purchased in advance of the trial. These supplies will be expensed over the course of the trial as patients are enrolled and product is used.

Certain of the Phase 3 ICT-107 vendors required deposits at the outset of the trial. Most vendors will use these deposits to offset invoices at the conclusion of the trial. Accordingly, these deposits are classified as non-current assets on the balance sheet. These deposits are refundable in the event the trial is terminated prior to its conclusion with the vendor applying the deposit against the costs of winding down the trial.

We may in the future seek to obtain funding through strategic alliances with larger pharmaceutical or biomedical companies. We cannot be sure that we will be able to obtain any additional funding from either financings or alliances, or that the terms under which we may be able to obtain such funding will be beneficial to us. If we are unsuccessful or only partly successful in our efforts to secure additional financing, we may find it necessary to suspend or terminate some or all of our product development and other activities.

**Cash Flows**

We used $16,123,449 of cash in our operations for the nine months ended September 30, 2016, compared to $13,223,771 for the nine months ended September 30, 2015. During the nine months ended September 30, 2016, we incurred expenses related to the initiation of the Company's ICT-107 Phase 3 trial. These expenses included site initiations, technology transfer to Europe and regulatory submissions in Canada and eight European countries and the randomization of six patients. Additionally, we liberalized the enrollment criteria for ICT-121 and completed patient enrollment. We also incurred certain expenses related to the development of certain stem cell immunotherapies for the treatment of cancer. We expect these expenses to increase in future periods as we progress in the ICT-107 Phase 3 trial and as we develop our stem cell immunotherapies. Our ICT-140 program remains on hold until we obtain financing sufficient to complete the ICT-107 trial or find a partner for this program. During the nine months ended September 30, 2016, we incurred $1,849,577 of non-cash expenses consisting of $889,146 of accrued interest on the CIRM award, $58,219 of depreciation, $142,788 of financing expenses and $759,424 of stock based compensation. We also recorded a non-cash credit of $2,045,082 related to the revaluation of our warrant derivatives. During the nine months ended September 30, 2015, we incurred $784,744 of non-cash expenses consisting of $20,282 of depreciation, $88,939 of financing expenses and $675,523 of stock based compensation and we recorded a non-cash credit of $2,328,298 related to the revaluation of our warrant derivatives.

In August 2016, we entered into an underwriting agreement with Maxim LLC, pursuant to which we received net proceeds of approximately $6.6 million (after deducting the underwriting discount and offering expenses) from the initial sale of 34.6 million shares of our common stock, base warrants to purchase 35,250,000 shares of common stock at an exercise price of $0.1921 per share, and pre-funded warrants to purchase 12,450,000 shares of common stock at an exercise price of $0.01 per share. The underwriters partially exercised their option to purchase additional shares and warrants and purchased an additional

1.5 million shares of our common stock at a price of $0.15 per share and base warrants to purchase an additional 4,478,625 shares at a price of $0.01 per warrant. The pre-funded warrants have a term of ten years and the base warrants have a term of five years from the date of issuance and have an exercise price of $0.1921. They also provide for a weighted average adjustment to the exercise price if we issue, or are deemed to issue, additional shares of common stock at a price per share less than the then effective price of the warrants, subject to certain exceptions. The pre-funded warrants were substantially paid for at the time of the offering and have an exercise price of $0.01. Through September 30, 2016, 8,350,000 pre-funded warrants were exercised and resulted in proceeds to us of $83,500.

During the nine months ended September 30, 2016, we received $691,187, net of commissions and professional fees, through the sale of our common stock in our Controlled Equity Offering.

Inflation and changing prices have had no effect on our income or losses from operations over our two most recent fiscal years.

**Off-Balance Sheet Arrangements**

We are not party to any off-balance sheet arrangements that have, or are reasonably likely to have, a material current or future effect on our financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

**Item 3. Quantitative and Qualitative Disclosures About Market Risk**

Not applicable.

**Item 4. Controls and Procedures**

As of the end of the fiscal quarter covered by this report, we carried out an evaluation, under the supervision and with the participation of our principal executive officer and principal financial officer, regarding the effectiveness of the design and operation of our disclosure controls and procedures pursuant to SEC Rule 15d-15(b) of the Exchange Act. Based upon that evaluation, our principal executive officer and principal financial officer concluded that, as of September 30, 2016 , (i) our disclosure controls and procedures were effective to ensure that information that is required to be disclosed by us in reports that we file under the Exchange Act is recorded, processed, summarized and reported or submitted within the time period specified in the rules and forms of the SEC and (ii) our disclosure controls and procedures were effective to provide reasonable assurance that material information required to be disclosed by us in the reports we file or submit under the Exchange Act was accumulated and communicated to our management as appropriate to allow timely decisions regarding required disclosure. There were no changes in our internal control over financial reporting that occurred during the period covered by this report that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

We do not expect that our disclosure controls and procedures and internal control over financial reporting will prevent all error and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within our company have been detected. The design of any system of controls also is based in part upon assurance that any design will succeed in achieving its stated goals under all potential future conditions. However, controls may become inadequate because of changes in conditions or the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

## PART II
## OTHER INFORMATION

**Item 1. Legal Proceedings**

There have been no material changes to the information included in Item 3. "Legal Proceedings" in our Annual Report on Form 10-K for the year ended December 31, 2015, filed on March 30, 2016 with the SEC.

**Item 1A. Risk Factors**

There have been no material changes to the risk factors included under Item 1A. of our Annual Report on Form 10-K for the year ended December 31, 2015, filed on March 30, 2016 with the SEC except as noted below.

***If we encounter difficulties enrolling patients in our clinical trials, our trials could be delayed or otherwise adversely affected.***

Clinical trials for our product candidates require that we identify and enroll a large number of patients with the disease under investigation. We may not be able to enroll a sufficient number of patients, or those with required or desired characteristics to achieve diversity in a study, to complete our clinical trials in a timely manner. We have in the past experienced some difficulty in enrollment in our clinical trials due to the criteria specified for eligibility for these trials, and we may encounter these difficulties in our ongoing clinical trials for our product candidates. The early enrollment experience in the ICT-107 phase 3 trial indicates that we need to make modifications in the trial protocol to accelerate enrollment. We are in the process of formulating an amendment to submit to the regulatory authorities to formally enact these changes. If accepted, the amendment will modify some elements of how patients qualify for the trial, raise the target number of randomized patients from 414 to at least 500 and result in a potential 12 to 18 month extension to complete the trial. In addition, with respect to ICT-107, we receive award funding based on reimbursement of amounts expended depending upon patient initiation in our ongoing phase 3 clinical trial and any delays in enrollment would negatively impact our cash flow and ability to finance our operations.

Patient enrollment is affected by factors including:

- design of the trial protocol;
- the size of the patient population;
- eligibility criteria for the study in question;
- perceived risks and benefits of the product candidate under study;
- availability of competing therapies and clinical trials;
- efforts to facilitate enrollment in clinical trials;
- our ability to successfully apheresе and manufacture ICT-107 and placebo for trial participants in a timely and cost-effective manner;
- the ability to monitor patients adequately during and after treatment; and
- proximity and availability of clinical trial sites for prospective patients.

If we have difficulty enrolling a sufficient number or diversity of patients to conduct our clinical trials as planned, we may need to delay or terminate ongoing or planned clinical trials, either of which would have a negative effect on our business. For example, we originally projected that we would complete enrollment of our ICT-107 phase 3 study by the end of 2017, with interim results at that time and six months thereafter. With the enrollment experience to date in the trial and a knowledge of likely modifications to the protocol, we now think the completion of enrollment will be delayed potentially by 12 to 18 months from original estimates. There can be no assurance that we will timely achieve these revised goals, that we will receive awards under our agreement with CIRM or that we will have sufficient funding to obtain these results or that the results will be favorable.

***We outsource almost all of our operational and development activities, and if any party to which we have outsourced certain essential functions fails to perform its obligations under agreements with us, the development and commercialization of our lead product candidate and any future product candidates that we may develop could be delayed or terminated.***

We generally rely on third-party consultants or other vendors to manage and implement the day-to-day conduct of our operations, including conducting clinical trials and manufacturing our current product candidates or any future product candidates that we may develop. Accordingly, we are and will continue to be dependent on the timeliness and effectiveness of their efforts. Our dependence on third parties includes key suppliers and third party service providers supporting the development, manufacture and regulatory approval of our products as well as support for our information technology systems and other infrastructure, including our network of leukapheresis providers. While our management team oversees these vendors, failure of any of these third parties to meet their contractual, regulatory and other obligations or the development of factors that materially disrupt the performance of these third parties could have a material adverse effect on our business. For example, all of the key oversight responsibilities for the development and manufacture of ICT-107, our lead product candidate, are conducted by our management team but all activities are the responsibility of third party vendors.

If a clinical research organization, or CRO, that we utilize is unable to allocate sufficient qualified personnel to our studies in a timely manner or if the work performed by it does not fully satisfy the requirements of the FDA or other regulatory agencies, we may encounter substantial delays and increased costs in completing our development efforts. Any manufacturer that we select may encounter difficulties in the manufacture of new products in commercial quantities, including problems involving product yields, product stability or shelf life, quality control, adequacy of control procedures and policies,

compliance with FDA regulations and the need for further FDA approval of any new manufacturing processes and facilities. For example, in August 2016, we were notified by our manufacturer producing clinical supplies for our phase 3 trial in ICT-107 that it had experienced a possible mycoplasma contamination in one healthy donor validation manufacturing run. Subsequent tests were unable to positively identify the presence of mycoplasma. In October 2016, we were notified of an additional potential mycoplasma contamination in a manufacturing run. If microbial, viral or other contaminations, including mycoplasma, are discovered in our product candidates or in the manufacturing facilities in which our product candidates are made, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination, and manufacturing of our clinical supplies and enrollment in our trials may be delayed.

The manufacture of clinical supplies for studies and commercial quantities of our current product candidates and any future product candidates that we may develop are likely to be inherently more difficult and costly than typical chemical pharmaceuticals. This could delay commercialization of any of our product candidates or reduce the profitability of these candidates for us. If any of these occur, the development and commercialization of our product candidates could be delayed, curtailed or terminated because we may not have sufficient financial resources or capabilities to continue such development and commercialization on our own. If we rely on only one source for the manufacture of the clinical or commercial supplies of any of our product candidates or products, any production problems or supply constraints with that manufacturer could adversely impact the development or commercialization of that product candidate or product.

***As an early stage small company that will be competing against numerous large, established companies that have substantially greater financial, technical, manufacturing, marketing, distribution and other resources than we have, we will be at a significant competitive disadvantage.***

The pharmaceutical and biopharmaceutical industry is characterized by intense competition and rapid and significant technological changes and advancements. Many companies, research institutions and universities are doing research and development work in a number of areas similar to those that we focus on that could lead to the development of new products which could compete with and be superior to our product candidates.

Most of the companies with which we compete have substantially greater financial, technical, research, manufacturing, marketing, distribution and other resources than those of ours. A number of these companies may have or may develop technologies for developing products for treating various diseases, including brain cancers, which could prove to be superior to ours. We expect technological developments in the pharmaceutical and biopharmaceutical and related fields to occur at a rapid rate, and we believe competition will intensify as advances in these fields are made. Accordingly, we will be required to continue to devote substantial resources and efforts to research and development activities in order to potentially achieve and maintain a competitive position in this field. Products that we develop may become obsolete before we are able to market them or to recover all or any portion of our research and development expenses. We will be competing with respect to our products with companies that have significantly more experience and expertise in undertaking preclinical testing and human clinical trials with new or improved therapeutic products and obtaining regulatory approvals of such products. A number of these companies already market and may be in advanced phases of clinical testing of various drugs that will or may compete with our current product candidates or other future potential product candidates. Our competitors may develop or commercialize products more rapidly than we do or with significant advantages over any products we develop. Our competitors may therefore be more successful in commercializing their products than us, which could adversely affect our competitive position and business.

In addition to sipuleucel-T and ipilimumab, which have been approved for sale by the FDA, several major biopharmaceutical companies, including Genentech, Inc. (a member of the Roche Group), Amgen Inc., Merck & Co., Inc., Novartis AG, GlaxoSmithKline plc, Celgene Corporation and Bristol-Myers Squibb Company (BMS), smaller biotechnology companies, such as Oncothyreon Inc., Galena Biopharma, Inc., Agenus Inc., Bavarian Nordic A/S, Kite Pharma, Inc., Juno Therapeutics, Inc. and Immunovaccine Inc., are developing cancer immunotherapies. A number of immunotherapy companies, including Northwest Biotherapeutics, Inc., Prima Biomed Ltd and DCPrime B.V., also utilize DCs for their therapeutic cancer vaccines.

Several companies are developing immunotherapies to treat newly diagnosed GBM. For example, Northwest Biotherapeutics is conducting a phase 3 study with DCVax, a DC-based tumor lysate vaccine. Agenus Inc. has recently completed a phase 2 clinical trial with its heat shock protein and tumor-derived peptide vaccine (HSPPC-96). BMS has recently launched two late stage trials to test their checkpoint inhibitor antibody, nivolumab, in both unmethylated MGMT and methylated MGMT newly diagnosed glioblastoma patients. Nivolumab is already approved by FDA and other regulators to treat other types of cancers.

In addition to the previously mentioned companies developing cancer immunotherapies, there are also several pharmaceutical companies, including OncoMed Pharmaceuticals, Inc., Verastem, Inc., Stemline Therapeutics, Inc. and Infinity Pharmaceuticals, Inc., that are pursuing drugs that target CSCs. Stemline is currently developing a peptide treatment, SL-701, for brain cancer.

In addition, in October 2015 Novocure received regulatory approval to market its Optune™ device in the U.S. for the treatment of newly diagnosed glioblastoma. The device delivers low-intensity, intermediate frequency, alternating electric currents to the brain. The adoption of this device could impact the speed of the ICT-107 phase 3 enrollment and its potential market should ICT-107 ultimately receive regulatory approval.

Colleges, universities, governmental agencies, and other public and private research organizations are becoming more active in seeking patent protection and licensing arrangements to collect royalties for use of technologies that they have developed, some of which may directly compete with our product candidates or any future product candidates that we may develop. Governments of a number of foreign countries are aggressively investing in cellular therapy research and promoting such research by public and private institutions within those countries. Domestic and foreign institutions and governmental agencies, along with pharmaceutical and specialized biotechnology companies, can be expected to compete with us in recruiting qualified scientific personnel.

Our competitive position will be significantly impacted by the following factors, among others:

- our ability to obtain U.S. and foreign marketing approvals for our product candidates on a timely basis;
- the level of acceptance of our products by physicians, compared to those of competing products or therapies;
- our ability to have our products manufactured on a commercial scale;
- the effectiveness of sales and marketing efforts on behalf of our products;
- our ability to meet demand for our products;
- our ability to secure insurance reimbursement for our products;
- the price of our products relative to competing products or therapies;
- our ability to enter into collaborations with third parties to market our products;
- our ability to recruit and retain appropriate management and scientific personnel; and
- our ability to develop a commercial-scale research and development, manufacturing and marketing infrastructure, either on our own or with one or more future strategic partners.

***Because our current and our other future potential product candidates will represent novel approaches to the treatment of disease, there are many uncertainties regarding the development, manufacturing, market acceptance, third-party reimbursement coverage and commercial potential of our product candidates.***

The approaches offered by our current product candidates or any future product candidates that we may develop may not gain broad acceptance among doctors or patients and governmental agencies or third-party medical insurers may not be willing to provide reimbursement coverage for proposed product candidates. Moreover, we do not have internal marketing data research resources and are not certain of and have not attempted to independently verify the potential size of the commercial markets for our current product candidates or any future product candidates that we may develop. Since our current product candidates and any future product candidates that we may develop will represent new approaches to treating various conditions, it may be difficult, in any event, to accurately estimate the potential revenues from these product candidates. We may spend large amounts of money trying to obtain approval for these product candidates, and never succeed in doing so. In addition, these product candidates may not demonstrate in large sets of patients the pharmacological properties ascribed to them in the laboratory studies or smaller groups of patients, and they may interact with human biological systems in unforeseen, ineffective or even harmful ways either before or after they are approved to be marketed. We have not yet manufactured our product on a commercial scale and may not be able to achieve manufacturing efficiencies relative to our competitors. We have experienced lot contamination or potential contaminations in our manufacturing process for clinical supplies that have been resolved with only minor delays to ongoing manufacturing. However, there can be no guarantee that we will not continue to experience contaminations in the future and therefore potential delays or interruptions in manufacturing. We do not yet have sufficient information to reliably estimate what it will cost to commercially manufacture our current product candidates or any future product candidates that we may develop, and the actual cost to manufacture these products could materially and adversely affect the commercial viability of these products. Certain of our cell-based vaccine product candidates may be formulated with cells harvested and processed from individual target patients, which could limit the total patient population for these vaccines and could require complex and costly manufacturing processes to produce these vaccines on a commercial basis. As a result, we may never succeed in developing a marketable product. If we do not successfully develop and commercialize products based upon our approach, we will not become profitable, which would materially and adversely affect the value of our common

stock. Finally, in order to have commercially viable markets for our products, we will need to obtain an adequate level of reimbursement by third party payors for our products.

The commercial success of our product candidates will depend upon the degree of market acceptance by physicians, patients, healthcare payors and others in the medical community.

Any product that we bring to market may not gain or maintain market acceptance by governmental purchasers, group purchasing organizations, physicians, patients, healthcare payors and others in the medical community. If any products that we develop do not achieve an adequate level of acceptance, we may not generate sufficient revenues to support continued commercialization of these products. The degree of market acceptance of our product candidates, if approved for commercial sale, will depend on a number of factors, including:

- the perceived safety and efficacy of our products;
- the prevalence and severity of any side effects;
- our ability to gain access to the entire market through distributor arrangements;
- the willingness of the target patient population to try new products and of physicians to prescribe our products;
- the effectiveness of our marketing strategy and distribution support;
- the timing of our receipt of any marketing approvals, the terms of any approvals and the countries in which approvals are obtained;
- the availability of government and third-party payor reimbursement;
- the pricing of our product candidates, particularly as compared to alternative treatments; and
- the availability of alternative effective forms of treatments, at that time, for the diseases that the product candidates we are developing are intended to treat.

***If we fail to adhere to the strict listing requirements of the NYSE MKT, our common stock and/or base warrants sold in our August 2016 underwritten public offering may be subject to delisting. As a result, the trading price of our common stock and base warrants may decline and may be delisted. If our stock and/or base warrants were no longer listed on the NYSE MKT, the liquidity of our securities likely would be impaired.***

Our common stock currently trades on the NYSE MKT under the symbol IMUC, and our base warrants currently trade on the NYSE MKT under the symbol IMUC.WS. In August 2016, we received a notice from the NYSE MKT that we did not meet the continued listing standards set forth in Part 10 of the NYSE MKT Company Guide (Company Guide). Specifically, the Notice states that the recent thirty-day average selling price per share of our common stock may not be suitable for auction market trading due to its low selling price. Therefore, in accordance with Section 1003(f)(v) of the Company Guide, the NYSE MKT has deemed it appropriate for us to effect a reverse stock split. The notice stated that if we do not address the low selling price within a reasonable amount of time, we will become subject to the continued listing evaluation and follow-up procedures set forth in Section 1009 of the Company Guide, which could, among other things, result in the initiation of delisting proceedings. Additionally, the notice stated that the NYSE MKT can take accelerated delisting action in the event that our common stock and/or warrants trade at levels viewed to be abnormally low. If our common stock and/or warrants were to be delisted, it could impair the liquidity of our securities not only in the number of shares or warrants that could be bought and sold at a given price, which might be depressed by the relative illiquidity, but also through delays in the timing of transactions and the potential reduction in media coverage. As a result, an investor might find it more difficult to dispose of our common stock and/or warrants. We believe that current and prospective investors would view an investment in our common stock and warrants more favorably if they continue to be listed on the NYSE MKT.

***Two research reports were published by one of the underwriters after the initial filing of our registration statement in connection with our August 2016 underwritten public offering. If either of these research reports were held to violate the Securities Act, investors in that offering may have the right to seek refunds or damages.***

On June 7, 2016 and June 8, 2016, after the initial filing of the registration statement in connection with our recent underwritten public offering, two research reports were written and distributed by Maxim Group LLC, one of the underwriters in the offering. These research reports were not intended to constitute offering materials in connection with this offering; however, there may nevertheless be a risk that the reports could be deemed prospectuses not meeting the requirements of the Securities Act, and the distribution of the reports could be found to be a violation of Section 5 of the Securities Act.

If the distribution of these research reports were to be held by a court to be a violation by us of Section 5 of the Securities Act, purchasers in the offering that received the research reports, if any, and potentially all purchasers of common stock in the offering would, under the Securities Act, have the right for a period of one year from the date of purchase to seek recovery of the consideration paid in connection with their purchase, or, if they had already sold the common stock purchased in the offering, sue us for damages resulting from their purchase. The total amount of these damages could potentially equal the gross proceeds of the offering, plus interest and the purchasers' attorneys' fees, if these investors seek recovery or damages after an entire loss of their investment. We also could be subject to potential enforcement actions by the Securities and Exchange Commission, which could result in injunctive relief or the imposition of fines. Although we would vigorously contest any claims brought on the basis of these research reports, there can be no guarantee that we would be successful in refuting any and all such claims. If any such claims were to succeed, we might not have sufficient funds to pay the resulting damages or to finance a repurchase of our common stock, and our reputation and our business could be materially and adversely affected.

**Item 2. Unregistered Sales of Equity Securities and Use of Proceeds**

None.

**Item 3. Defaults Upon Senior Securities**

None.

**Item 4. Mine Safety Disclosures**

Not applicable.

**Item 5. Other Information**

None.

**Item 6. Exhibits**

| Exhibit No. | Description |
|---|---|
| 4.1 | Warrant Agreement, dated August 12, 2016, by and among ImmunoCellular Therapeutics, Ltd., Computershare Inc. and Computershare Trust Company, N.A., as warrant agent, and the form of Warrant issued in August 2016 public offering. |
| 4.2* | Form of Pre-Funded Warrant issued in August 2016 public offering. |
| 10.1+ | Amendment to Employment Agreement by and between ImmunoCellular Therapeutics, Ltd. and David Fractor, dated as of September 13, 2016. |
| 31.1 | Certification of the Registrant's Principal Executive Officer under Exchange Act Rule 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. |
| 31.2 | Certification of the Registrant's Principal Financial Officer under Exchange Act Rule 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. |
| 32.1 | Certification of the Registrant's Principal Executive Officer under 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. |
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| 101.INS | XBRL Instance Document |
| 101.SCH | XBRL Taxonomy Extension Schema Document |
| 101.CAL | XBRL Taxonomy Extension Calculation Linkbase Document |
| 101.LAB | XBRL Taxonomy Extension Labels Linkbase Document |
| 101.PRE | XBRL Taxonomy Extension Presentation Linkbase Document |
| 101.DEF | XBRL Taxonomy Extension Definition Linkbase Document |
| + | Indicates management contract or compensatory plan or arrangement |
| * | Previously filed by us on August 4, 2016 as an exhibit to our Registration Statement on Form S-1, File No. 333-211763 and incorporated herein by reference. |

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Dated: November 10, 2016

IMMUNOCELLULAR THERAPEUTICS, LTD.

By: /s/ Andrew Gengos

Name: Andrew Gengos

Title: President and Chief Executive Officer
(Principal Executive Officer)

By: /s/ David Fractor

Name: David Fractor

Title: Principal Accounting Officer
(Principal Financial and Accounting Officer)

**EXHIBIT INDEX**

**IMMUNOCELLULAR THERAPEUTICS, LTD.**

**FORM 10-Q FOR QUARTER ENDED SEPTEMBER 30, 2016**

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**Exhibit 4.1**

# WARRANT AGREEMENT

**THIS WARRANT AGREEMENT** (this " ***Agreement*** "), dated as of August 12, 2016, is by and between **IMMUNOCELLULAR THERAPEUTICS, LTD.** , a Delaware corporation (the " ***Company*** "), and **COMPUTERSHARE INC.** , a Delaware corporation, and its wholly-owned subsidiary, **COMPUTERSHARE TRUST COMPANY, N.A.** , a federally chartered trust company, collectively as the Warrant Agent (the " ***Warrant Agent*** ").

**WHEREAS** , the Company is engaged in a public offering (the " ***Offering*** ") of shares of common stock of the Company, par value $0.0001 per share (" ***Common Stock*** "), and warrants to purchase shares of Common Stock and, in connection therewith, has determined to issue and deliver up to 40,537,500 Warrants (including up to 5,287,500 Warrants subject to an over-allotment option granted to the underwriters by the Company) to public investors in the Offering, each such Warrant evidencing the right of the holder thereof to purchase one share of Common Stock for $0.1921 per share, subject to adjustment as described herein (the " ***Warrants*** ");

**WHEREAS** , the Company has filed with the Securities and Exchange Commission (the " ***Commission*** ") a Registration Statement on Form S-1 (File No. 333-211763) (as the same may be amended from time to time, the " ***Registration Statement*** ") for the registration, under the Securities Act of 1933, as amended (the " ***Securities Act*** "), of the shares of Common Stock and the Warrants to be sold to investors in the Offering and the shares of Common Stock underlying the Warrants;

**WHEREAS** , the Company desires the Warrant Agent to act on behalf of the Company, and the Warrant Agent is willing to so act, in connection with the issuance, registration, transfer, exchange and exercise of the Warrants;

**WHEREAS** , the Company desires to provide for the form and provisions of the Warrants, the terms upon which they shall be issued and exercised, and the respective rights, limitation of rights, and immunities of the Company, the Warrant Agent, and the holders of the Warrants, or if the Warrants are held in "street name", a Participant (as defined below) or a designee appointed by such Participant (each, a " ***Holder*** " or " ***Registered Holder*** "); and

**WHEREAS** , all acts and things have been done and performed which are necessary to make the Warrants, when executed on behalf of the Company and countersigned by or on behalf of the Warrant Agent, as provided herein, the valid, binding and legal obligations of the Company, and to authorize the execution and delivery of this Agreement.

**NOW, THEREFORE** , in consideration of the mutual agreements herein contained, the parties hereto agree as follows:

**1. Appointment of Warrant Agent.** The Company hereby appoints the Warrant Agent to act as agent for the Company for the Warrants, and the Warrant Agent hereby accepts such appointment and agrees to perform the same in accordance with the express terms and conditions set forth in this Agreement (and no duties or obligations shall be inferred or implied). The Warrant Agent shall not assume any obligations or relationship of agency or trust with any of the Holders.

**2. Warrants.**

**2.1 Form of Warrant.** Each Warrant shall be issued in registered form only and shall be in substantially the form of **Exhibit A** hereto, the provisions of which are incorporated herein. Each Warrant shall be

signed by, or bear the facsimile signature of, the President, Chief Executive Officer, Chief Financial Officer, Secretary or other principal officer of the Company. In the event the person whose facsimile signature has been placed upon any Warrant shall have ceased to serve in the capacity in which such person signed the Warrant before such Warrant is issued, it may be issued with the same effect as if he or she had not ceased to be such at the date of issuance. All of the Warrants shall initially be represented by one or more book-entry certificates (each, a " ***Book-Entry Warrant Certificate*** ").

**2.2 Effect of Countersignature.** Unless and until countersigned by, or issued bearing the facsimile signature of the Warrant Agent pursuant to this Agreement, a Warrant shall be invalid and of no effect and may not be exercised by the holder thereof.

**2.3 Registration.**

**2.3.1 Warrant Register.** The Warrant Agent shall maintain books (the " ***Warrant Register*** ") for the registration of the original issuance and the registration of transfer of the Warrants. Upon the initial issuance of the Warrants, the Warrant Agent shall issue and register the Warrants in the names of the respective holders thereof in such denominations and otherwise in accordance with instructions delivered to the Warrant Agent by the Company. To the extent the Warrants are eligible for the book entry and depository services of The Depository Trust Company (" ***DTC Eligible*** ") as of the date of issuance (the " ***Issuance Date*** "), all of the Warrants shall be represented by one or more Book-Entry Warrant Certificates deposited with The Depository Trust Company (the " ***Depository*** ") and registered in the name of Cede & Co., a nominee of the Depository. Ownership of beneficial interests in the Book-Entry Warrant Certificates shall be shown on, and the transfer of such ownership shall be effected through, records maintained (i) by the Depository or its nominee for each Book-Entry Warrant Certificate; (ii) by institutions that have accounts with the Depository (such institution, with respect to a Warrant in its account, a " ***Participant*** "); or (iii) directly on the book-entry records of the Warrant Agent with respect only to owners of beneficial interests represented by such direct registration. If the Warrants are not DTC Eligible as of the Issuance Date or the Depository subsequently ceases to make its book-entry settlement system available for the Warrants, the Company may instruct the Warrant Agent regarding making other arrangements for book-entry settlement within ten (10) days after the Depository ceases to make its book-entry settlement available. In the event that the Company does not make alternative arrangements for book-entry settlement within ten (10) days or the Warrants are not eligible for, or it is no longer necessary to have the Warrants available in, book-entry form, the Warrant Agent shall provide written instructions, upon receipt of written instructions from the Company, to the Depository to deliver to the Warrant Agent for cancellation each Book-Entry Warrant Certificate, and the Company shall instruct the Warrant Agent to deliver to the Depository definitive certificates (" ***Warrant Certificates*** ") in physical form evidencing such Warrants. Such Warrant Certificates shall be in substantially the form annexed hereto as Exhibit A.

**2.3.2 Beneficial Owner; Registered Holder.** The term "beneficial owner" shall mean any person in whose name ownership of a beneficial interest in the Warrants evidenced by a Book-Entry Warrant Certificate is recorded in the records maintained by the Depository or its nominee. Prior to due presentment to the Warrant Agent for registration of transfer of any Warrant, the Company and the Warrant Agent may deem and treat the person in whose name such Warrant is registered in the Warrant Register as the absolute owner of such Warrant and of each Warrant represented thereby (notwithstanding any notation of ownership or other writing on the Warrant Certificate (as defined below) made by anyone other than the Company or the Warrant Agent), for the purpose of any exercise thereof, and for all other purposes, and neither the Company nor the Warrant Agent shall be affected by any notice to the contrary.

**2.4 Uncertificated Warrants.** Notwithstanding the foregoing and anything else herein to the contrary, the Warrants may be issued in uncertificated form.

**2.5 Opinion of Counsel.** The Company shall provide an opinion of counsel to the Warrant Agent prior to the issuance of the Warrants to set up a reserve of Warrants and related Common Stock. The opinion shall state that all Warrants or Common Stock, as applicable, are:

**2.5.1** registered under the Securities Act, or are exempt from such registration, and all appropriate state securities law filings have been made with respect to the Warrants or shares; and

**2.5.2** validly issued, fully paid and non-assessable.

**3. Terms and Exercise of Warrants.**

**3.1 Exercise Price.** Each Warrant shall, when countersigned by the Warrant Agent, entitle the Registered Holder thereof, subject to the provisions of such Warrant and of this Agreement, to purchase from the Company the number of shares of Common Stock stated therein, at the price of $0.1921 per share, subject to the adjustments provided herein. The term " ***Exercise Price*** " as used in this Agreement shall mean the price per share at which shares of Common Stock may be purchased at the time a Warrant is exercised.

**3.2 Duration of Warrants.** A Warrant may be exercised only during the period (the " ***Exercise Period*** ") commencing on the Date of Issuance and ending on August 12, 2021 (the " ***Expiration Date*** "); *provided, however* , that the exercise of any Warrant shall be subject to the satisfaction of any applicable conditions, as set forth in **Section 3.3.2** or with respect to an effective registration statement. Each Warrant not exercised on or before the Expiration Date shall become void, and all rights thereunder and all rights in respect thereof under this Agreement shall cease at 5:00 p.m. New York City time on the Expiration Date.

**3.3 Exercise of Warrants.**

**3.3.1 Payment.** Subject to the provisions of the Warrant and this Agreement, a Warrant, when countersigned by the Warrant Agent, may be exercised by the Registered Holder thereof by submitting a duly executed Election to Purchase attached to the applicable Warrant, at the office of the Warrant Agent, or at the office of its successor as Warrant Agent, which may be done by fax or email delivery, and by paying, within two Trading Days of the date of exercise, in full the Exercise Price for each full share of Common Stock as to which the Warrant is exercised (the " ***Aggregate Exercise Price*** "), in lawful money of the United States, by wire transfer or in good certified check or good bank draft payable to the order of the Company or by Cashless Exercise, if permitted under, and in accordance with, **Section 3.3.2** . Except as otherwise set forth in this Agreement, no ink-original Election to Purchase shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Election to Purchase form be required; *provided, however* , that if the Company's transfer agent is not participating in the Depository's Fast Automated Securities Transfer Program and the Registered Holder requests that the shares of Common Stock be issued or registered to a holder other than the Registered Holder, then an ink-original Election to Purchase and a medallion guarantee shall be required. If a Warrant Certificate is held by a Depository, then no physical delivery of a Warrant Certificate in order to effect an exercise hereunder shall be required and, if a Warrant Certificate is held by any person other than the Depository, the Registered Holder shall be required to physically deliver a Warrant Certificate in order to effect an exercise hereunder. The Warrant Agent shall forward funds received for exercises of Warrants in a given month (other than by Cashless Exercises) by the 5th business day of the following month by wire

transfer to an account designated by the Company. The term " ***Trading Day*** " means a day on which the principal securities exchange or trading market on which the Common Stock is listed or quoted for trading is open for trading.

**3.3.2 Cashless Exercise.** Notwithstanding anything contained herein to the contrary, if and only if an effective registration statement covering the issuance of the shares of Common Stock that are subject to the Election to Purchase is not available for the issuance of such shares of Common Stock, the Registered Holder may exercise a Warrant in whole or in part and, in lieu of making the cash payment otherwise contemplated to be made to the Company upon such exercise in payment of the aggregate Exercise Price, elect instead to receive upon such exercise the " ***Net Number*** " of shares of Common Stock determined according to the following formula (a " ***Cashless Exercise*** "):

$$\text{Net Number} = \frac{(A \times B) - (A \times C)}{B}$$

For purposes of the foregoing formula:

A = the total number of shares with respect to which a Warrant is then being exercised.

B = the last VWAP immediately preceding the time of delivery of the Election to Purchase giving rise to the applicable "cashless exercise", as set forth in the applicable Election to Purchase (to clarify, the "last VWAP" will be the last VWAP as calculated over an entire Trading Day such that, in the event that this Warrant is exercised at a time that the principal securities exchange or trading market on which the Common Stock is listed or quoted for trading is open for trading, the prior Trading Day's VWAP shall be used in this calculation).

C = the Exercise Price then in effect for the applicable shares of Common Stock at the time of such exercise.

In connection with any Cashless Exercise pursuant to this **Section 3.3.2** , the Warrant Agent will promptly deliver a copy of the Election to Purchase to the Company to confirm the Net Number of shares of Common Stock issuable in connection with the Cashless Exercise. The Company shall calculate and transmit such calculations to the Warrant Agent, and the Warrant Agent shall have no obligation under this **Section 3.3.2** to calculate, verify or confirm the Net Number of shares of Common Stock to be issued with respect to such Cashless Exercise.

For purposes of Rule 144(d) promulgated under the Securities Act, as in effect on the date hereof, assuming the Registered Holder is not an affiliate of the Company, the shares of Common Stock issued in a Cashless Exercise shall be deemed to have been acquired by the Registered Holder, and the holding period for the shares of Common Stock shall be deemed to have commenced, on the date the Warrant was originally issued. Also, the shares of Common Stock issued in a Cashless Exercise shall take on the registered characteristics of the Warrant being exercised.

**3.3.3 Issuance of Common Stock on Exercise.** Assuming funds for exercise are paid on or before the second Trading Day following the date of receipt by the Company of an Election to Purchase, then on or before the third Trading Day following the date upon which the Company has received a duly executed Election to Purchase for a Warrant, the Company shall cause its transfer agent to (i) *provided* that the transfer agent is participating in the Depository's Fast Automated Securities Transfer Program, credit such aggregate number of shares of Common Stock to which the Holder is entitled pursuant to such exercise to the Holder's or its designee's balance account with the Depository through its Deposit/Withdrawal at Custodian System, or (ii) if the transfer agent is not participating in the Depository's Fast Automated Securities Transfer Program, issue and deliver to the Holder, or at the Holder's instruction pursuant to the delivered Election to Purchase, the Holder's agent or designee, in each case pursuant to this

clause (ii), sent by reputable overnight courier to the address specified in the applicable Election to Purchase, a certificate, registered in the Company's share register in the name of the Holder or its designee (as indicated in the applicable Election to Purchase), for the number of shares of Common Stock to which the Holder is entitled pursuant to such exercise. While any Warrants remain outstanding, the Company shall maintain a transfer agent that participates in the Depository's Fast Automated Securities Transfer Program.

**3.3.4 Valid Issuance.** All Common Stock issued or issuable upon the proper exercise of a Warrant in conformity with this Agreement shall be validly issued, fully paid and nonassessable.

**3.3.5 Date of Issuance.** Each person in whose name any certificate for the Common Stock is issued, or is required to be issued hereunder, or to whom shares of Common Stock are credited (or are required to be credited) to such person's account at the Depository shall for all purposes be deemed to have become the holder of record of such Common Stock as of the time that a duly executed Election to Purchase is delivered in accordance with **Section 3.3.1** , assuming, in the case of a Cash Exercise, payment of the Aggregate Exercise Price is made within two (2) Trading Days after the delivery of the Election to Purchase, and if the payment of the Aggregate Exercise Price is not made within two (2) Trading Days after the delivery of the Election to Purchase, the Holder shall be deemed to have become the holder of record of such Common Stock on the first Trading Day after the date on which the Aggregate Exercise Price has been paid, irrespective of the date of delivery of such certificate or the date the shares of Common Stock are credited to such person's account at the Depository, except that, if the date of such delivery and/or payment is a date when the stock transfer books of the Company are closed, such person shall be deemed to have become the holder of such shares at the close of business on the next succeeding date on which the stock transfer books are open.

**3.3.6 Share Delivery Failure.** If the Company shall fail, for any reason or for no reason, to issue to the Holder within three (3) Trading Days after receipt of the applicable Election to Purchase (the " ***Share Delivery Deadline*** "), a certificate for the number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise of a Warrant or credit the Holder's balance account with the Depository for such number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise of this Warrant (as the case may be, but in each case without a restrictive legend) (a " ***Delivery Failure*** "), and if on or after such Share Delivery Deadline the Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Holder of all or any portion of the number of shares of Common Stock issuable upon such exercise that the Holder so anticipated receiving from the Company, then, in addition to all other remedies available to it, the Company shall, within three (3) Business Days (as defined below) after the Holder's request and in the Holder's discretion, either (i) pay cash to the Holder in an amount equal to 100% of the Holder's total purchase price (including brokerage commissions and other out-of-pocket expenses, if any) for the shares of Common Stock so purchased (including, without limitation, by any other person in respect, or on behalf, of the Holder) (the " ***Buy-In Price*** "), at which point the Company's obligation to so issue and deliver such certificate or credit the Holder's balance account with the Depository for the number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise hereunder (as the case may be) (and to issue such shares of Common Stock) shall terminate, or (ii) promptly honor its obligation to so issue and deliver to the Holder a certificate or certificates representing such shares of Common Stock or credit the Holder's balance account with the Depository for the number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise hereunder (as the case may be) and pay cash to the Holder in an amount equal to the excess (if any) of the Buy-In Price over the product of (A) such number of shares of Common Stock multiplied by (B) the lowest VWAP of the shares of Common Stock on any Trading Day during the period commencing on the date of the applicable Election to Purchase and ending on the date immediately preceding the date of such issuance and payment under this clause (ii). The term " ***Business Day*** " as used in this Agreement shall mean any day except a Saturday, a Sunday or any

other day on which commercial banks are required or authorized to close in the City of New York, State of New York or the City of Calabasas, State of California. If the Company fails for any reason to deliver to the Holder the Common Stock subject to a Election to Purchase by the Share Delivery Deadline, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each $1,000 of Common Stock subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Election to Purchase), $10 per Trading Day (increasing to $20 per Trading Day on the fifth Trading Day after such liquidated damages begin to accrue) for each Trading Day after such Share Delivery Deadline until such shares of Common Stock are delivered or Holder rescinds such exercise. For the purposes of this provision " ***VWAP*** " means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on the NYSE MKT, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the NYSE MKT on which the Common Stock is then listed or quoted as reported by Bloomberg, L.P. (" ***Bloomberg*** ") (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if the Common Stock is listed or quoted on the OTCQB or OTCQX, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported in the " ***Pink Sheets*** " published by OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of a majority in interest of the Warrants then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company. The Warrant Agent shall have no duties or obligations of any nature under this **Section 3.3.6** without clear and precise instructions from the Company.

**3.4 Beneficial Ownership Limitation on Exercises.** The Company shall not effect the exercise of any portion of a Warrant, and the Registered Holder of such Warrant shall not have the right to exercise any portion of such Warrant, to the extent that after giving effect to such exercise, the Registered Holder (together with the Registered Holder's affiliates, and any persons acting as a group together with the Registered Holder or any Registered Holder's affiliates) would beneficially own in excess of 4.99% (the " ***Maximum Percentage*** ") of the Common Stock outstanding immediately after giving effect to such exercise, *provided, however* , that the foregoing limitation on exercise shall not apply to any Registered Holder who, together with such Registered Holder's affiliates, and any persons acting as a group together with such Registered Holder and such Registered Holder's affiliates, owns in excess of the Maximum Percentage immediately prior to the closing of the Offering. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by such Registered Holder and its affiliates, and any persons acting as a group together with such Registered Holder and such Registered Holder's affiliates, shall include the number of shares of Common Stock issuable upon exercise of the Warrant with respect to which the determination of such sentence is being made, but shall exclude shares of Common Stock which would be issuable upon (i) exercise of the remaining, unexercised portion of the Warrant beneficially owned by the Registered Holder and its affiliates, and any persons acting as a group together with such Registered Holder and such Registered Holder's affiliates, and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company beneficially owned by the Registered Holder and its affiliates, and any persons acting as a group together with such Registered Holder and such Registered Holder's affiliates (including, without limitation, any convertible notes or convertible preferred stock or warrants) subject to a limitation on conversion or exercise analogous to the limitation contained herein. Except as set forth in the preceding sentence, for purposes of this paragraph, beneficial ownership shall be calculated in accordance with **Section 13(d)** of the Securities Exchange Act of 1934, as amended (the " ***Exchange Act*** "). The Warrant Agent shall not be responsible for calculating beneficial ownership in accordance with the provisions of this **Section 3.4** , nor shall it have any duty to monitor or ensure compliance with this Section or take any action with respect thereto (unless

specifically instructed in writing by the Company). To the extent that the limitation contained in this **Section 3.4** applies, the Registered Holder's submission of an Election to Purchase shall be deemed to be the Registered Holder's determination of whether a Warrant is exercisable (in relation to any other securities owned by the Registered Holder together with any affiliates, and any persons acting as a group together with such Registered Holder and such Registered Holder's affiliates) and of which portion of a Warrant is exercisable, in each case subject to the Maximum Percentage, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with **Section 13(d)** of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of the Warrants, in determining the number of outstanding shares of Common Stock, the Registered Holder may rely on the number of outstanding shares of Common Stock as reflected in the most recent of (1) the Company's most recent Form 10-K, Form 10-Q, Current Report on Form 8-K or other public filing with the Commission, as the case may be, (2) a more recent written public announcement by the Company, or (3) any other notice by the Company or its transfer agent setting forth the number of shares of Common Stock outstanding. For any reason at any time, upon the written or oral request of the Registered Holder, the Company shall within three (3) Trading Days confirm to the Registered Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including any Warrant, by the Registered Holder and its affiliates, and any persons acting as a group together with such Registered Holder and such Registered Holder's affiliates, since the date as of which such number of outstanding shares of Common Stock was reported. By written notice to the Company, the Registered Holder may from time to time increase or decrease the Maximum Percentage to 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of a Warrant and the provisions of this **Section 3.4** shall continue to apply; *provided that* (y) any such increase will not be effective until the sixty-first (61 $^{st}$) day after such notice is delivered to the Company, and (z) any such increase or decrease will apply only to that Registered Holder. For purposes of clarity, the Common Stock underlying any Warrant in excess of the Maximum Percentage for a Registered Holder shall not be deemed to be beneficially owned by that Registered Holder for any purpose including for purposes of **Section 13(d)** or Rule 16a-1(a)(1) of the Exchange Act. The provisions set forth herein shall be construed and implemented in a manner otherwise than in strict conformity with the other terms of this **Section 3.4** to the extent necessary to correct any such provision which may be defective or inconsistent with the intended beneficial ownership limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation.

**3.5 Cost Basis Information.**

**3.5.1** In the event of a cash exercise, the Company shall instruct the Warrant Agent to record cost basis for newly issued shares in a manner reasonably determined by the Company to be subsequently communicated by the Company to the Warrant Agent. In the absence of basis information provided by the Company, securities will be recorded by the Warrant Agent as noncovered.

**3.5.2** In the event of a Cashless Exercise, the Company shall provide cost basis for shares issued pursuant to a Cashless Exercise at the time the Company confirms the Net Number to the Warrant Agent pursuant to **Section 3.3.2** hereof.

**4. Adjustments.**

**4.1 Stock Dividends.**

**4.1.1 Split-Ups.** If after the date hereof, and subject to the provisions of **Section 4.4** , the number of outstanding shares of Common Stock is increased by a stock dividend payable in Common Stock, or by a split-up of Common Stock or other similar event, then, on the effective date of such stock dividend, split-up or similar event, the number of shares of Common Stock issuable on exercise of each Warrant shall be increased in proportion to such increase in the outstanding shares of Common Stock and the Exercise Price shall be proportionally decreased such that the aggregate Exercise Price, after such adjustments, remains the same for each Warrant.

**4.1.2 Dividends and Other Distributions.** If the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction), except to the extent an adjustment was already made pursuant *to* **Section 4.1.1** or **Section 4.2** (a " ***Distribution*** "), at any time after the issuance of a Warrant, then, in each such case, the Company shall reserve and put aside the maximum Distribution amount the Holder would have been entitled to receive if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of the Warrant (without regard to any limitations on exercise hereof, including without limitation, the Maximum Percentage) immediately before the date on which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of Common Stock are to be determined for the participation in such Distribution. Upon exercise of a Warrant, in whole or in part, the Company shall, contemporaneously with the delivery of the shares of Common Stock into which the Warrants are exercisable (the " ***Warrant Shares*** "), distribute to the Holder a pro rata portion of such Distribution based on the portion of the Warrant that has been exercised ( *provided, however* , to the extent that the Holder's right to participate in any such Distributions would result in the Holder exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Distribution at such time and to such extent (or the beneficial ownership of any such Common Stock as a result of such Distribution to such extent) and such Distribution to such extent shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Maximum Percentage, at which time or times the Holder shall be granted such Distribution (and any Distributions declared or made on such initial Distribution or on any subsequent Distribution to be held similarly in abeyance) to the same extent as if there had been no such limitation).

**4.2 Aggregation of Shares.** If after the date hereof, and subject to the provisions of **Section 4.6** , the number of outstanding shares of Common Stock is decreased by a consolidation, combination, reverse stock split or reclassification of Common Stock or other similar event, then, on the effective date of such consolidation, combination, reverse stock split, reclassification or similar event, the number of shares of Common Stock issuable on exercise of each Warrant shall be decreased in proportion to such decrease in outstanding shares of Common Stock and the Exercise Price shall be proportionally increased such that the aggregate Exercise Price, after such adjustments, remains the same for each Warrant.

**4.3 Subsequent Rights Offerings.** In addition to any adjustments stated herein, if at any time the Company grants, issues or sells any security of the Company or any other entity that is convertible into, or exercisable or exchangeable for, Common Stock, or any warrant or other right to purchase Common Stock or any other security of the Company or any other entity that is convertible into, or exercisable or exchangeable for, Common Stock (" ***Common Stock Equivalents*** ") or other property pro rata to all the record holders of any class of shares of Common Stock (the " ***Purchase Rights*** "), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on

exercise hereof, including without limitation on the Maximum Percentage immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights; *provided, however* , to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Maximum Percentage, at which time or times the Holder shall be granted such right (and any Purchase Right granted, issued or sold on such initial Purchase Right or on any subsequent Purchase Right to be held similarly in abeyance) to the same extent as if there had been no such limitation.

**4.4 Subsequent Equity Sales.** If and whenever on or after the Issuance Date, the Company issues or sells, or in accordance with this **Section 4.4** is deemed to have issued or sold, any shares of Common Stock (including the issuance or sale of shares of Common Stock owned or held by or for the account of the Company, but excluding shares of Common Stock deemed to have been issued by the Company in connection with any Excluded Securities (as defined below) (the " ***Additional Shares*** ") for a consideration per share (the " ***New Issuance Price*** ") less than a price (the " ***Applicable Price*** ") equal to the Exercise Price in effect immediately prior to such issue or sale or deemed issuance or sale (the foregoing a " ***Dilutive Issuance*** "), then immediately after such Dilutive Issuance, the Exercise Price then in effect shall be reduced to a price determined as follows:

$$\text{Adjusted Exercise Price} = \frac{(A \times B) + D}{A+C}$$

where

"A" equals the number of shares of Common Stock outstanding, including the Additional Shares deemed to be issued hereunder, immediately preceding the Dilutive Issuance;

"B" equals the Exercise Price in effect immediately preceding such Dilutive Issuance;

"C" equals the number of Additional Shares issued or deemed issued hereunder as a result of the Dilutive Issuance; and

"D" equals the aggregate consideration, if any, received or deemed to be received by the Company upon such Dilutive Issuance.

**4.4.1 Issuance of Options.** If the Company in any manner grants any Options and the lowest price per share for which one share of Common Stock is issuable upon the exercise of any such Option or upon conversion, exercise or exchange of any Convertible Securities issuable upon exercise of any such Option is less than the Applicable Price, then such share of Common Stock shall be deemed to be outstanding and to have been issued and sold by the Company at the time of the granting or sale of such Option for such price per share. For purposes of this **Section 4.4.1** , the "lowest price per share for which one share of Common Stock is issuable upon exercise of such Options or upon conversion, exercise or exchange of such Convertible Securities issuable upon exercise of any such

Option" shall be equal to the sum of the lowest amounts of consideration (if any) received or receivable by the Company with respect to any one share of Common Stock upon the granting or sale of the Option, upon exercise of the Option and upon conversion, exercise or exchange of any Convertible Security issuable upon exercise of such Option less any consideration paid or payable by the Company with respect to such one share of Common Stock upon the granting or sale of such Option, upon exercise of such Option and upon conversion exercise or exchange of any Convertible Security issuable upon exercise of such Option. No further adjustment of the Exercise Price shall be made upon the actual issuance of such shares of Common Stock or of such Convertible Securities upon the exercise of such Options or upon the actual issuance of such shares of Common Stock upon conversion, exercise or exchange of such Convertible Securities.

**4.4.2 Issuance of Convertible Securities.** If the Company in any manner issues or sells any Convertible Securities and the lowest price per share for which one share of Common Stock is issuable upon the conversion, exercise or exchange thereof is less than the Applicable Price, then such share of Common Stock shall be deemed to be outstanding and to have been issued and sold by the Company at the time of the issuance or sale of such Convertible Securities for such price per share. For the purposes of this **Section 4.4.2** , the "lowest price per share for which one share of Common Stock is issuable upon the conversion, exercise or exchange thereof" shall be equal to the sum of the lowest amounts of consideration (if any) received or receivable by the Company with respect to one share of Common Stock upon the issuance or sale of the Convertible Security and upon conversion, exercise or exchange of such Convertible Security less any consideration paid or payable by the Company with respect to such one share of Common Stock upon the issuance or sale of such Convertible Security and upon conversion, exercise or exchange of such Convertible Security. No further adjustment of the Exercise Price shall be made upon the actual issuance of such shares of Common Stock upon conversion, exercise or exchange of such Convertible Securities, and if any such issue or sale of such Convertible Securities is made upon exercise of any Options for which adjustment of this Warrant has been or is to be made pursuant to other provisions of this **Section 4.4** , no further adjustment of the Exercise Price shall be made by reason of such issue or sale.

**4.4.3 Change in Option Price or Rate of Conversion.** If the purchase price provided for in any Options, the additional consideration, if any, payable upon the issue, conversion, exercise or exchange of any Convertible Securities, or the rate at which any Convertible Securities are convertible into or exercisable or exchangeable for shares of Common Stock increases or decreases at any time, the Exercise Price in effect at the time of such increase or decrease shall be adjusted to the Exercise Price which would have been in effect at such time had such Options or Convertible Securities provided for such increased or decreased purchase price, additional consideration or increased or decreased conversion rate, as the case may be, at the time initially granted, issued or sold. For purposes of this **Section 4.4.3** , if the terms of any Option or Convertible Security that was outstanding as of the date of issuance of this Warrant are increased or decreased in the manner described in the immediately preceding sentence, then such Option or Convertible Security and the shares of Common Stock deemed issuable upon exercise, conversion or exchange thereof shall be deemed to have been issued as of the date of such increase or decrease. No adjustment pursuant to this **Section 4.4** shall be made if such adjustment would result in an increase of the Exercise Price then in effect.

**4.4.4 Calculation of Consideration Received.** In case any Option is issued in connection with the issue or sale of other securities of the Company, together comprising one integrated transaction, (x) the Options will be deemed to have been issued for the Option Value of such Options and (y) the other securities issued or sold in such integrated transaction shall be deemed to have been issued for the difference of (I) the aggregate consideration received by the Company less any consideration paid or payable by the Company pursuant to the terms of such other securities of the Company, less (II) the Option Value. If any shares of Common Stock, Options or Convertible Securities

are issued or sold or deemed to have been issued or sold for cash, the consideration received therefor will be deemed to be the net amount received by the Company therefor. If any shares of Common Stock, Options or Convertible Securities are issued or sold for a consideration other than cash, the amount of such consideration received by the Company will be the fair value of such consideration, except where such consideration consists of securities, in which case the amount of consideration received by the Company will be the Closing Sale Price of such security on the date of receipt. If any shares of Common Stock, Options or Convertible Securities are issued to the owners of the non-surviving entity in connection with any merger in which the Company is the surviving entity, the amount of consideration therefor will be deemed to be the fair value of such portion of the net assets and business of the non-surviving entity as is attributable to such shares of Common Stock, Options or Convertible Securities, as the case may be. The fair value of any consideration other than cash or securities will be determined jointly by the Company and the Holder. If such parties are unable to reach agreement within ten (10) days after the occurrence of an event requiring valuation (the " ***Valuation Event*** "), the fair value of such consideration will be determined within five (5) Trading Days after the tenth (10th) day following the Valuation Event by an independent, reputable appraiser jointly selected by the Company and the Holder. The determination of such appraiser shall be final and binding upon all parties absent manifest error and the fees and expenses of such appraiser shall be borne by the Company. The term " ***Closing Sale Price*** " means, for any security as of any date, the last closing bid price and last closing trade price, respectively, for such security on the NYSE MKT, as reported by Bloomberg L.P., or, if the NYSE MKT begins to operate on an extended hours basis and does not designate the closing bid price or the closing trade price, as the case may be, then the last bid price or the last trade price, respectively, of such security prior to 4:00 p.m., New York City time, as reported by Bloomberg L.P., or, if the NYSE MKT is not the principal securities exchange or trading market for such security, the last closing bid price or last trade price, respectively, of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg L.P., or if the foregoing do not apply, the last closing bid price or last trade price, respectively, of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg L.P., or, if no closing bid price or last trade price, respectively, is reported for such security by Bloomberg L.P., the average of the bid prices, or the ask prices, respectively, of any market makers for such security as reported in the OTC Link or "pink sheets" by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Sale Price of such security on such date shall be the fair market value as mutually determined by the Company and the Registered Holder. If the Company and the Registered Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to **Section 8.3** . All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during the applicable calculation period.

**4.4.5 Record Date.** If the Company takes a record of the holders of shares of Common Stock for the purpose of entitling them (A) to receive a dividend or other distribution payable in shares of Common Stock, Options or in Convertible Securities or (B) to subscribe for or purchase shares of Common Stock, Options or Convertible Securities, then such record date will be deemed to be the date of the issue or sale of the shares of Common Stock deemed to have been issued or sold upon the declaration of such dividend or the making of such other distribution or the date of the granting of such right of subscription or purchase, as the case may be.

**4.4.6 No Change in Warrant Shares.** No reduction in the Exercise Price pursuant to this **Section 4.4** shall change the number of Warrant Shares for which this Warrant shall be exercisable.

**4.4.7** For the purposes of this **Section 4.4** :

**4.4.7.1** " ***Convertible Securities*** " means any stock or securities (other than Options) directly or indirectly convertible into or exercisable or exchangeable for shares of Common Stock.

**4.4.7.2** " ***Excluded Securities*** " means (A) the securities to be sold in the Offering and the securities to be issued upon the exercise or conversion of such securities, (B) up to $15,000,000, in the aggregate, of shares of Common Stock or Common Stock Equivalents issued or issuable at an effective price per share less than the Exercise Price then in effect pursuant to (i) that certain Controlled Equity Offering Sales Agreement, dated April 18, 2013, by and between the Company and Cantor Fitzgerald & Co. or (ii) any similar agreement that may be entered into while this Warrant is outstanding, (C) any shares of Common Stock or Common Stock Equivalents (and the exercise thereof) issued or issuable to directors, officers, employees or consultants of the Company in connection with their service as directors of the Company, their employment by the Company or their retention as consultants by the Company pursuant to an Approved Stock Plan (as defined below) provided, however, issuances to consultants shall not exceed 1,000,000 shares (to be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction), in the aggregate, of Common Stock or Common Stock Equivalents in any 12 month period, (D) any shares of Common Stock or Common Stock Equivalents issued or issuable as consideration for an acquisition or strategic transaction approved by a majority of the disinterested directors of the Company, provided that any such issuance shall only be to a Person (or to the equityholders of a Person) which is, itself or through its subsidiaries, an operating company or an owner of an asset in a business synergistic with the business of the Company and shall provide to the Company additional benefits in addition to the investment of funds, but shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities, and (E) the issuance of Common Stock upon the exercise of warrants as disclosed as outstanding in the Registration Statement *provided* , that none of such warrants are amended, modified or revised after the date hereof. " ***Approved Stock Plan*** " means any employee benefit plan or other issuance, employment agreement or option grant or similar agreement which has been approved by the Board of Directors of the Company, pursuant to which the Company's securities may be issued to any employee, consultant, officer or director for services provided to the Company.

**4.4.7.3** " ***Options*** " means any rights, warrants or options to subscribe for or purchase shares of Common Stock or Convertible Securities.

**4.4.7.4** " ***Option Value*** " means the value of an Option based on the Black and Scholes Option Pricing model obtained from the "OV" function on Bloomberg determined as of the Trading Day prior to the public announcement of the applicable Option for pricing purposes and reflecting (i) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the remaining term of the applicable Option as of the applicable date of determination, (ii) an expected volatility equal to the greater of (a) 100% and (b) the 100 day volatility obtained from the HVT function on Bloomberg as of the Trading Day immediately following the public announcement of the issuance of the applicable Option, (iii) the underlying price per share used in such calculation shall be the highest VWAP of the Common Stock during the period beginning on the day prior to the execution of definitive documentation relating to the issuance of the applicable Option and the public announcement of such issuance, (iv) a zero cost to borrow, and (v) a 360 day annualization factor.

**4.5 Fundamental Transactions.** If, at any time while the Warrants are outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another person, (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another person) is completed

pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another person or group of persons whereby such other person or group acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other person or other persons making or party to, or associated or affiliated with the other persons making or party to, such stock or share purchase agreement or other business combination) (each a " ***Fundamental Transaction*** "), then, upon any subsequent exercise of a Warrant, the Registered Holder of each Warrant shall have the right to receive, for each share of Common Stock that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction, at the option of the Registered Holder (without regard to any limitation in **Section 3.4** on the exercise of the Warrants), the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the " ***Alternate Consideration*** ") receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which a Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in **Section 3.4** on the exercise of the Warrants). For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then each Registered Holder shall be given the same choice as to the Alternate Consideration such Registered Holder receives upon any exercise of a Warrant following such Fundamental Transaction. Notwithstanding anything to the contrary, in the event of a Fundamental Transaction, the Company or any Successor Entity (as defined below) shall, at the Holder's option, exercisable at any time concurrently with, or within 30 days after, the consummation of the Fundamental Transaction, purchase this Warrant from the Holder by paying to the Holder an amount of cash equal to the Black Scholes Value of the remaining unexercised portion of this Warrant on the date of the consummation of such Fundamental Transaction. " ***Black Scholes Value*** " means the value of this Warrant based on the Black and Scholes Option Pricing Model obtained from the "OV" function on Bloomberg determined as of the day of consummation of the applicable Fundamental Transaction for pricing purposes and reflecting (A) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the time between the date of the public announcement of the applicable Fundamental Transaction and the Expiration Date, (B) an expected volatility equal to the greater of 100% and the 100 day volatility obtained from the HVT function on Bloomberg as of the Trading Day immediately following the public announcement of the applicable Fundamental Transaction, or, if the Fundamental Transaction is not publicly announced, the date the Fundamental Transaction is consummated, (C) the underlying price per share used in such calculation shall be the sum of the price per share being offered in cash, if any, plus the value of any non-cash consideration, if any, being offered in such Fundamental Transaction, (D) (iv) a zero cost of borrow and (v) a 360 day annualization factor. The payment of the Black Scholes Value will be made by wire transfer of immediately available funds within five Business Days of the Holder's election (or, if later, on the effective date of the Fundamental Transaction). The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the " ***Successor Entity*** ") and for which stockholders of the Company received any equity securities of the Successor Entity to assume in writing all obligations of the Company under each Warrant in accordance with the provisions of this **Section 4.5** pursuant to agreements in form and substance reasonably satisfactory to the Registered

Holders and approved by the Registered Holders holding Warrants to purchase at least a majority of the shares of Common Stock underlying the then outstanding Warrants (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of each Registered Holder, deliver to such Registered Holder in exchange for such Registered Holder's Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to such Registered Holder's Warrant which is exercisable for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon exercise of such Warrant (without regard to the limitations on exercise set forth in **Section 3.4** ) prior to such Fundamental Transaction, and with an exercise price which applies the Exercise Price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of such Warrant immediately prior to the consummation of such Fundamental Transaction). Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Agreement and each Warrant referring to the " ***Company*** " shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Agreement and each Warrant with the same effect as if such Successor Entity had been named as the Company herein.

**4.6 Calculations.** All calculations under this **Section 4** shall be made by the Company and shall be made to the nearest cent or the nearest whole share, as the case may be. For purposes of this **Section 4** , any calculation of the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall not include treasury shares, if any. Notwithstanding anything to the contrary in this **Section 4** , no adjustment in the Exercise Price shall be required unless such adjustment would require an increase or decrease of at least 1% in such price; *provided, however* , that any adjustments which by reason of the immediately preceding sentence are not required to be made shall be carried forward and taken into account in any subsequent adjustment.

**4.7 Notices of Changes in Warrant.** Upon every adjustment of the Exercise Price or the number of shares issuable upon exercise of a Warrant, the Company shall give written notice thereof to the Warrant Agent, which notice shall state the Exercise Price resulting from such adjustment and the increase or decrease, if any, in the number of shares purchasable at such price upon the exercise of a Warrant, setting forth in reasonable detail the method of calculation and the facts upon which such calculation is based. Upon the occurrence of any event specified in **Sections 4.1** , **4.2** , **4.3** or **4.4** (each, an " ***Adjustment Event*** "), the Company shall give written notice of the occurrence of such event to each Warrant holder, at the last address set forth for such holder in the Warrant Register, of the record date or the effective date of the event. Failure to give such notice, or any defect therein, shall not affect the legality or validity of such event. The Company hereby agrees that it will provide the Warrant Agent with reasonable notice of Adjustment Events or any event under **Section 4.5** . The Company further agrees that it will provide to the Warrant Agent with any new or amended exercise terms. The Warrant Agent shall have no obligation under any Section of this Agreement to determine whether an Adjustment Event or an event under **Section 4.5** has occurred or are scheduled or contemplated to occur or to calculate, verify or confirm any of the adjustments set forth in this Agreement. To the extent that any notice provided in this Warrant constitutes, or contains, material, non-public information regarding the Company or any of the subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K.

**4.8 No Fractional Shares.** Notwithstanding any provision contained in this Agreement to the contrary, the Company shall not issue fractional shares upon exercise of Warrants. If, by reason of any adjustment made

pursuant to this **Section 4** , the holder of any Warrant would be entitled, upon the exercise of such Warrant, to receive a fractional interest in a share, the Company shall, upon such exercise, round down to the nearest whole number the number of shares of Common Stock to be issued to such Holder. If fewer than all the Warrants evidenced by a Book-Entry Warrant Certificate are exercised, a notation shall be made to the records maintained by the Depository, its nominee for each Book-Entry Warrant Certificate, or a Participant, as appropriate, evidencing the balance of the Warrants remaining after such exercise.

**4.9 Form of Warrant.** The form of Warrant need not be changed because of any adjustment pursuant to this **Section 4** , and Warrants issued after such adjustment may state the same Exercise Price and the same number of shares as is stated in the Warrants initially issued pursuant to this Agreement.

**5. Transfer and Exchange of Warrants.**

**5.1 Registration of Transfer.** The Warrant Agent shall register the transfer, from time to time, of any outstanding Warrant upon the Warrant Register, upon surrender of such Warrant for transfer, properly endorsed with signatures properly guaranteed by an eligible guarantor institution participating in a signature guarantee program approved by the Securities Transfer Association and accompanied by appropriate instructions for transfer, as well as any other evidence of authority that may be reasonably required by the Warrant Agent. Upon any such transfer, a new Warrant representing an equal aggregate number of Warrants shall be issued and the old Warrant shall be cancelled by the Warrant Agent. The Warrants so cancelled shall be delivered by the Warrant Agent to the Company from time to time upon request.

**5.2 Procedure for Surrender of Warrants.** Warrants may be surrendered to the Warrant Agent, together with a written request for exchange or transfer reasonably acceptable to the Warrant Agent, duly executed by the Registered Holder thereof, or by a duly authorized attorney, and thereupon the Warrant Agent shall issue in exchange therefor one or more new Warrants as requested by the Registered Holder of the Warrants so surrendered, representing an equal aggregate number of Warrants; *provided, however* , that except as otherwise provided herein or in any Book-Entry Warrant Certificate, each Book-Entry Warrant Certificate may be transferred only in whole and only to the Depository, to another nominee of the Depository, to a successor depository, or to a nominee of a successor depository.

**5.3 Fractional Warrants.** The Warrant Agent shall not be required to effect any registration of transfer or exchange which shall result in the issuance of a Book-Entry Warrant Certificate or Warrant Certificate for a fraction of a Warrant.

**5.4 Warrant Execution and Countersignature.** The Warrant Agent is hereby authorized to countersign and to deliver, in accordance with the terms of this Agreement, the Warrants required to be issued pursuant to the provisions of this **Section 5** and the Company, whenever required by the Warrant Agent, will supply the Warrant Agent with Warrants duly executed on behalf of the Company for such purpose.

**6. Other Provisions Relating to Rights of Holders of Warrants.**

**6.1 No Rights as Stockholder.** Except as otherwise specifically provided herein, a Registered Holder, solely in its capacity as a holder of a Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of share capital of the Company for any purpose, nor shall anything contained in this Agreement be construed to confer upon a Registered Holder, solely in its capacity as the Registered Holder of a Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any

reorganization, issue of stock, reclassification of stock, consolidation, merger, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Registered Holder of the Warrant Shares which it is then entitled to receive upon the due exercise of a Warrant. A Warrant does not entitle the Registered Holder thereof to any of the rights of a stockholder.

**6.2 Lost, Stolen, Mutilated, or Destroyed Warrants.** If any Warrant Certificate is lost, stolen, mutilated, or destroyed, absent notice to the Company or the Warrant Agent that such Warrant Certificate has been acquired by a "protected" purchaser, the Company may, upon receipt by the Warrant Agent of an open penalty surety bond satisfactory to it and holding it and Company harmless, or otherwise as the Company and the Warrant Agent may in their discretion impose (which shall, in the case of a mutilated Warrant, include the surrender thereof), issue a new Warrant Certificate of like denomination, tenor, and date as the Warrant Certificate so lost, stolen, mutilated, or destroyed, and countersigned by the Warrant Agent. Any such new Warrant Certificate shall constitute a substitute contractual obligation of the Company, whether or not the allegedly lost, stolen, mutilated, or destroyed Warrant Certificate shall be at any time enforceable by anyone. The Warrant Agent may, at its option, issue replacement Warrant Certificates for mutilated certificates upon presentation thereof without such indemnity.

**6.3 Reservation of Common Stock.** The Company shall at all times reserve and keep available a number of its authorized but unissued shares of Common Stock that shall be sufficient to permit the exercise in full of all outstanding Warrants issued pursuant to this Agreement.

**7. Concerning the Warrant Agent and Other Matters.**

**7.1 Payment of Taxes.** The Company shall from time to time promptly pay all taxes and charges that may be imposed upon the Company or the Warrant Agent in respect of the issuance or delivery of shares of Common Stock upon the exercise of the Warrants, but neither the Company nor the Warrant Agent shall be obligated to pay any income taxes of the Holder in respect of the Warrants or such shares.

**7.2 Resignation, Consolidation, or Merger of Warrant Agent.**

**7.2.1 Appointment of Successor Warrant Agent.** The Warrant Agent, or any successor hereafter appointed, may resign its duties and be discharged from all further duties and liabilities hereunder after giving thirty (30) days' notice in writing to the Company. If the office of the Warrant Agent becomes vacant by resignation or incapacity to act or otherwise, the Company shall appoint in writing a successor Warrant Agent in place of the Warrant Agent. If the Company shall fail to make such appointment within a period of thirty (30) days after it has been notified in writing of such resignation or incapacity by the Warrant Agent or by the holder of a Warrant (who shall, with such notice, submit his Warrant for inspection by the Company), then the holder of any Warrant may apply to the Supreme Court of the State of New York for the County of New York for the appointment of a successor Warrant Agent at the Company's cost. Any successor Warrant Agent, whether appointed by the Company or by such court, shall be authorized under applicable laws to exercise powers of a transfer agent and subject to supervision or examination by federal or state authority. After appointment, any successor Warrant Agent shall be vested with all the authority, powers, rights, immunities, duties, and obligations of its predecessor Warrant Agent with like effect as if originally named as the Warrant Agent hereunder, without any further act or deed; but if for any reason it becomes necessary or appropriate, the predecessor Warrant Agent shall execute and deliver, at the expense of the Company, an instrument transferring to such successor Warrant Agent all the authority, powers, and rights of such predecessor Warrant Agent hereunder; and upon request of any successor Warrant Agent the Company shall make, execute, acknowledge, and deliver any and all

instruments in writing for more fully and effectually vesting in and confirming to such successor Warrant Agent all such authority, powers, rights, immunities, duties, and obligations.

**7.2.2 Notice of Successor Warrant Agent.** In the event a successor Warrant Agent shall be appointed, the Company shall give notice thereof to the predecessor Warrant Agent and the transfer agent for the Common Stock not later than thirty (30) days before the effective date of any such appointment.

**7.2.3 Merger or Consolidation of Warrant Agent.** Any entity into which the Warrant Agent may be merged or with which it may be consolidated or any entity resulting from any merger or consolidation to which the Warrant Agent shall be a party shall be the successor Warrant Agent under this Agreement without any further act.

**7.3 Fees and Expenses of Warrant Agent.**

**7.3.1 Remuneration.** The Company agrees to pay the Warrant Agent reasonable remuneration for its services as such Warrant Agent hereunder and any transfer agent fees which are in addition thereto and shall, pursuant to its obligations under this Agreement, reimburse the Warrant Agent upon demand for all expenditures that the Warrant Agent may reasonably incur in the execution of its duties hereunder.

**7.3.2 Further Assurances.** The Company agrees to perform, execute, acknowledge, and deliver or cause to be performed, executed, acknowledged, and delivered all such further and other acts, instruments, and assurances as may reasonably be required by the Warrant Agent for the carrying out or performing of the provisions of this Agreement.

**7.4 Liability of Warrant Agent.**

**7.4.1 Reliance on Company Statement.** Whenever in the performance of its duties under this Agreement, the Warrant Agent shall deem it necessary or desirable that any fact or matter be proved or established by the Company prior to taking or suffering any action hereunder, such fact or matter (unless other evidence in respect thereof be herein specifically prescribed) may be deemed to be conclusively proved and established by a statement signed by the President, Chief Executive Officer, Chief Financial Officer, Secretary or other principal officer of the Company and delivered to the Warrant Agent. The Warrant Agent may rely upon, and be held harmless for such reliance upon, such statement for any action taken or suffered in good faith by it pursuant to the provisions of this Agreement, and shall not be held liable in connection with any delay in receiving such statement.

**7.4.2 Indemnity.** The Warrant Agent shall be liable hereunder only for its own gross negligence, willful misconduct or bad faith (each as determined by a final judgment of a court of competent jurisdiction). The Company covenants and agrees to indemnify and to hold the Warrant Agent harmless against any costs, expenses (including reasonable fees of its legal counsel), losses or damages, which may be paid, incurred or suffered by or to which it may become subject, arising from or out of, directly or indirectly, any claims or liability resulting from its actions as Warrant Agent pursuant hereto; provided, that such covenant and agreement does not extend to, and the Warrant Agent shall not be indemnified with respect to, such costs, expenses, losses and damages incurred or suffered by the Warrant Agent as a result of, or arising out of, its gross negligence, bad faith, or willful misconduct (each as determined by a final judgment of a court of competent jurisdiction).

**7.4.3 Exclusions.** The Warrant Agent shall have no responsibility with respect to the validity of this Agreement or with respect to the validity or execution of any Warrant (except its countersignature thereof). The Warrant Agent shall not be responsible for any breach by the Company of any covenant or condition contained in this Agreement or in any Warrant. The Warrant Agent shall not be responsible to make any adjustments required under the provisions of **Section 4** or responsible for the manner, method, or amount of any such adjustment or the ascertaining of the existence of facts that would require any such adjustment; nor shall it by any act hereunder be deemed to make any representation or warranty as to the authorization or reservation of any shares of Common Stock to be issued pursuant to this Agreement or any Warrant or as to whether any shares of Common Stock shall, when issued, be valid and fully paid and nonassessable.

**7.4.4 Instructions.** From time to time, the Company may provide the Warrant Agent with instructions concerning the services performed by the Warrant Agent hereunder. In addition, at any time the Warrant Agent may apply to any officer of Company for instruction, and may consult with legal counsel for the Warrant Agent or the Company with respect to any matter arising in connection with the services to be performed by the Warrant Agent under this Agreement. Warrant Agent and its agents and subcontractors shall not be liable and shall be indemnified by Company for any action taken or omitted to be taken by Warrant Agent in reliance upon any Company instructions or upon the advice or opinion of such counsel. Warrant Agent shall not be held to have notice of any change of authority of any person, until receipt of written notice thereof from Company.

**7.4.5 Rights and Duties of Warrant Agent.**

**7.4.5.1** The Warrant Agent may consult with legal counsel (who may be legal counsel for the Company), and the advice or opinion of such counsel shall be full and complete authorization and protection to the Warrant Agent as to any action taken or omitted by it in accordance with such opinion.

**7.4.5.2** The Warrant Agent shall not be liable for or by reason of any of the statements of fact or recitals contained in this Agreement or in the Warrant Certificates (except its countersignature thereof) or be required to verify the same, and all such statements and recitals are and shall be deemed to have been made by the Company only.

**7.4.5.3** The Warrant Agent shall not have any duty or responsibility in the case of the receipt of any written demand from any holder of Warrants with respect to any action or default by the Company, including, without limiting the generality of the foregoing, any duty or responsibility to initiate or attempt to initiate any proceedings at law or otherwise or to make any demand upon the Company.

**7.4.5.4** The Warrant Agent and any stockholder, director, officer or employee of the Warrant Agent may buy, sell or deal in any of the Warrants or other securities of the Company or become pecuniarily interested in any transaction in which the Company may be interested, or contract with or lend money to the Company or otherwise act as fully and freely as though it were not Warrant Agent under this Agreement. Nothing herein shall preclude the Warrant Agent from acting in any other capacity for the Company or for any other legal entity.

**7.4.5.5** The Warrant Agent may execute and exercise any of the rights or powers hereby vested in it or perform any duty hereunder either itself or by or through its attorney or agents, and the Warrant Agent shall not be answerable or accountable for any act, default, neglect or misconduct of any such attorney or agents or for any loss to the Company resulting from any such act, default, neglect or misconduct, absent gross negligence,

bad faith or willful misconduct (each as determined by a final judgment of a court of competent jurisdiction) in the selection and continued employment thereof.

**7.4.5.6** The Warrant Agent may rely on and shall be held harmless and protected and shall incur no liability for or in respect of any action taken, suffered or omitted to be taken by it in reliance upon any certificate, statement, instrument, opinion, notice, letter, facsimile transmission, telegram or other document, or any security delivered to it, and believed by it to be genuine and to have been made or signed by the proper party or parties, or upon any written or oral instructions or statements from the Company with respect to any matter relating to its acting as Warrant Agent hereunder.

**7.4.5.7** The Warrant Agent shall not be obligated to expend or risk its own funds or to take any action that it believes would expose or subject it to expense or liability or to a risk of incurring expense or liability, unless it has been furnished with assurances of repayment or indemnity satisfactory to it.

**7.4.5.8** The Warrant Agent shall not be liable or responsible for any failure of the Company to comply with any of its obligations relating to any registration statement filed with the Commission or this Agreement, or otherwise relating to the Company's failure to comply with federal or state securities laws, whether referenced herein or otherwise.

**7.4.5.9** The Warrant Agent shall not be accountable or under any duty or responsibility for the use by the Company of any Warrants authenticated by the Warrant Agent and delivered by it to the Company pursuant to this Agreement or for the application by the Company of the proceeds of the issue and sale, or exercise, of the Warrants.

**7.4.5.10** The Warrant Agent shall act hereunder solely as agent for the Company, and its duties shall be determined solely by the express provisions hereof (and no duties or obligations shall be inferred or implied). The Warrant Agent shall not assume any obligations or relationship of agency or trust with any of the owners or holders of the Warrants.

**7.4.5.11** The Warrant Agent may rely on and be fully authorized and protected in acting or failing to act upon (a) any guaranty of signature by an "eligible guarantor institution" that is a member or participant in the Securities Transfer Agents Medallion Program or other comparable "signature guarantee program" or insurance program in addition to, or in substitution for, the foregoing; or (b) any law, act, regulation or any interpretation of the same even though such law, act, or regulation may thereafter have been altered, changed, amended or repealed.

**7.4.5.12** In the event the Warrant Agent reasonably believes any ambiguity or uncertainty exists hereunder or in any notice, instruction, direction, request or other communication, paper or document received by the Warrant Agent hereunder, the Warrant Agent, may, in its reasonable discretion, refrain from taking any action, and shall be fully protected and shall not be liable in any way to Company, the holder of any Warrant Certificate or Book-Entry Warrant Certificate or any other person or entity for refraining from taking such action, unless and until the Warrant Agent receives written instructions signed by the Company which eliminates such ambiguity or uncertainty to the satisfaction of Warrant Agent.

**7.5 Acceptance of Agency.** The Warrant Agent hereby accepts the agency established by this Agreement and agrees to perform the same upon the terms and conditions herein set forth and among other things, shall

account promptly to the Company with respect to Warrants exercised and concurrently account for, and pay to the Company, all monies received by the Warrant Agent for the purchase of shares of Common Stock through the exercise of the Warrants.

**7.6 Limitation of Liability.** Notwithstanding anything contained herein to the contrary, the Warrant Agent's aggregate liability during any term of this Agreement with respect to, arising from, or arising in connection with this Agreement, or from all services provided or omitted to be provided under this Agreement, whether in contract, or in tort, or otherwise, is limited to, and shall not exceed, the amounts paid hereunder by the Company to the Warrant Agent as fees and charges, but not including reimbursable expenses, during the twelve (12) months immediately preceding the event for which recovery from the Warrant Agent is being sought. Neither party to this Agreement shall be liable to the other party for any consequential, indirect, special, punitive or incidental damages under any provisions of this Agreement or for any consequential, indirect, punitive, special or incidental damages arising out of any act or failure to act hereunder even if that party has been advised of or has foreseen the possibility or likelihood of such damages.

**7.7 Survival.** The provisions of this Section 7 shall survive the termination of this Agreement and the resignation, removal or replacement of the Warrant Agent.

**8. Miscellaneous Provisions.**

**8.1 Successors.** All the covenants and provisions of this Agreement by or for the benefit of the Company or the Warrant Agent shall bind and inure to the benefit of their respective successors and assigns.

**8.2 Notices.** Any notice, statement or demand authorized by this Agreement to be given or made by the Warrant Agent or by the holder of any Warrant to or on the Company shall be sufficiently given in writing (i) when so delivered if by hand, (ii) when sent, if delivered by nationally recognized overnight delivery service, facsimile (provided that confirmation of transmission is mechanically or electronically generated and kept on file by the sending party) or by electronic mail (provided that such sent e-mail is kept on file (whether electronically or otherwise) by the sending party and the sending party does not receive an automatically generated message from the recipient's e-mail server that such e-mail could not be delivered to such recipient), or (iii) if sent by certified mail or private courier service, within five (5) days after deposit of such notice, postage prepaid, properly addressed (until another address is filed in writing by the Company with the Warrant Agent), as follows:

ImmunoCellular Therapeutics, Ltd.
23622 Calabasas Road, Suite 300
Calabasas, California 91302
Attn: Andrew Gengos, President and Chief Executive Officer
Facsimile: (818) 224-5287

with a copy to (which shall not constitute notice):

Cooley LLP
3175 Hanover Street
Palo Alto, California 94304
Attn: Glen Y. Sato
Facsimile: (650) 849-7400

Any notice, statement or demand authorized by this Agreement to be given or made by the holder of any Warrant or by the Company to or on the Warrant Agent shall be sufficiently given in writing (i) when so delivered if by hand, (ii) when sent, if delivered by nationally recognized overnight delivery service, facsimile (provided that confirmation of transmission is mechanically or electronically generated and kept on file by the sending party) or by electronic mail (provided that such sent e-mail is kept on file (whether electronically or otherwise) by the sending party and the sending party does not receive an automatically generated message from the recipient's e-mail server that such e-mail could not be delivered to such recipient), or (iii) if sent by certified mail or private courier service, within five (5) days after deposit of such notice, postage prepaid, properly addressed (until another address is filed in writing by the Warrant Agent with the Company), as follows:

Computershare Trust Company, N.A.
250 Royall Street
Canton, MA 02021
Attention: Client Administration
Facsimile: (781) 575-2549

**8.3 Applicable Law.** The validity, interpretation, and performance of this Agreement and of the Warrants shall be governed in all respects by the laws of the State of New York, without giving effect to conflicts of law principles that would result in the application of the substantive laws of another jurisdiction. The Company hereby agrees that any action, proceeding or claim against it arising out of or relating in any way to this Agreement shall be brought and enforced in the courts of the State of New York or the United States District Court for the Southern District of New York, and irrevocably submits to such jurisdiction, which jurisdiction shall be exclusive. The Company hereby waives any objection to such exclusive jurisdiction and that such courts represent an inconvenient forum.

**8.4 Persons Having Rights under this Agreement.** Nothing in this Agreement shall be construed to confer upon, or give to, any person or corporation other than the parties hereto and the Registered Holders of the Warrants any right, remedy, or claim under or by reason of this Agreement or of any covenant, condition, stipulation, promise, or agreement hereof. All covenants, conditions, stipulations, promises, and agreements contained in this Agreement shall be for the sole and exclusive benefit of the parties hereto and their successors and assigns and of the Registered Holders of the Warrants.

**8.5 Examination of the Warrant Agreement.** A copy of this Agreement shall be available at all reasonable times at the office of the Warrant Agent, for inspection by the Registered Holder of any Warrant. The Warrant Agent may require any such Registered Holder to submit his Warrant for inspection by it.

**8.6 Counterparts.** This Agreement may be executed in any number of original or facsimile counterparts and each of such counterparts shall for all purposes be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument. A signature to this Agreement transmitted electronically shall have the same authority, effect and enforceability as an original signature.

**8.7 Effect of Headings.** The section headings herein are for convenience only and are not part of this Agreement and shall not affect the interpretation thereof.

**8.8 Amendments.** This Agreement may be amended by the Company and the Warrant Agent with the written consent of the Company and the Registered Holders holding Warrants to purchase at least a majority of the shares of Common Stock underlying the then outstanding Warrants. No consideration shall be offered by the

Company to any Registered Holder in connection with a modification, amendment or waiver of this Agreement or any Warrant without also offering the same consideration to all Registered Holders. As a condition precedent to the Warrant Agent's execution of any amendment to this Agreement, the Company shall deliver to the Warrant Agent a certificate from a duly authorized officer of the Company that states that the proposed amendment is in compliance with the terms of this **Section 8.8** .

**8.9 Severability.** This Agreement shall be deemed severable, and the invalidity or unenforceability of any term or provision hereof shall not affect the validity or enforceability of this Agreement or of any other term or provision hereof. Furthermore, in lieu of any such invalid or unenforceable term or provision, the parties hereto intend that there shall be added as a part of this Agreement a provision as similar in terms to such invalid or unenforceable provision as may be possible and be valid and enforceable.

**8.10 Force Majeure.** Notwithstanding anything to the contrary contained herein, the Warrant Agent will not be liable for any delays or failures in performance resulting from acts beyond its reasonable control including, without limitation, acts of God, terrorist acts, shortage of supply, breakdowns or malfunctions, interruptions or malfunction of computer facilities, or loss of data due to power failures or mechanical difficulties with information storage or retrieval systems, labor difficulties, war, or civil unrest.

**8.11 Bank Accounts.** All funds received by Computershare Inc. under this Agreement that are to be distributed or applied by Computershare Inc. in the performance of its services hereunder (the " ***Funds*** ") shall be held by Computershare Inc. as agent for the Company and deposited in one or more bank accounts to be maintained by Computershare Inc. in its name as agent for the Company. Until paid pursuant to the terms of this Agreement, Computershare Inc. will hold the Funds through such accounts in: deposit accounts of commercial banks with Tier 1 capital exceeding $1 billion or with an average rating above investment grade by S&P (LT Local Issuer Credit Rating), Moody's (Long Term Rating) and Fitch Ratings, Inc. (LT Issuer Default Rating) (each as reported by Bloomberg Finance L.P.). Computershare Inc. shall have no responsibility or liability for any diminution of the Funds that may result from any deposit made by Computershare Inc. in accordance with this paragraph, including any losses resulting from a default by any bank, financial institution or other third party. Computershare Inc. may from time to time receive interest, dividends or other earnings in connection with such deposits. Computershare Inc. shall not be obligated to pay such interest, dividends or earnings to the Company, any Holder of Warrants or any other party.

**8.12 Confidentiality.** The Warrant Agent and the Company agree that all books, records, information and data pertaining to the business of the other party, including *inter alia* , personal, non-public information about the Holders, which are exchanged or received pursuant to the negotiation or the carrying out of this Agreement including the fees for services set forth in the attached schedule shall remain confidential, and shall not be voluntarily disclosed to any other person, except as may be required by law, including, without limitation, pursuant to subpoenas from state or federal government authorities (e.g., in divorce and criminal actions).

***[Signature Page Follows]***

**IN WITNESS WHEREOF** , the parties hereto have caused this Agreement to be duly executed as of the date first above written.

**IMMUNOCELLULAR THERAPEUTICS, LTD.**

By: /s/ Andrew Gengos

Name: Andrew Gengos

Title: President & CEO

**COMPUTERSHARE INC.,** as Warrant Agent

By: /s/ Dan DeWeever

Name: Dan DeWeever

Title: Product Director

**COMPUTERSHARE TRUST COMPANY, N.A.,** as Warrant Agent

By: /s/ Dan DeWeever

Name: Dan DeWeever

Title: Product Director

**EXHIBIT A**

**[FORM OF WARRANT CERTIFICATE]**

Number

**Warrants**

**THIS WARRANT SHALL BE VOID IF NOT EXERCISED PRIOR TO THE EXPIRATION OF THE EXERCISE PERIOD PROVIDED FOR IN THE WARRANT AGREEMENT DESCRIBED BELOW**
**IMMUNOCELLULAR THERAPEUTICS, LTD.**

**Incorporated Under the Laws of the State of Delaware**

CUSIP 452536113

**Warrant Certificate**

This Warrant Certificate certifies that [_____], or its registered assigns, is the registered holder of warrant(s) (the " ***Warrants*** " and each, a " ***Warrant*** ") to purchase shares of Common Stock, $0.0001 par value per share (" ***Common Stock*** "), of ImmunoCellular Therapeutics, Ltd., a Delaware corporation (the " ***Company*** "). Each Warrant entitles the holder, upon exercise during the period set forth in the Warrant Agreement referred to below, to receive from the Company that number of fully paid and nonassessable shares of Common Stock as set forth below, at the exercise price (the " ***Exercise Price*** ") as determined pursuant to the Warrant Agreement, payable in lawful money of the United States of America (or through "cashless exercise" as provided for in the Warrant Agreement), subject to the conditions set forth herein and in the Warrant Agreement. Defined terms used in this Warrant Certificate but not defined herein shall have the meanings given to them in the Warrant Agreement (as defined on the reverse hereof).

Each Warrant is initially exercisable for one fully paid and non-assessable share of Common Stock. The number of shares of Common Stock issuable upon exercise of the Warrants is subject to adjustment upon the occurrence of certain events set forth in the Warrant Agreement.

The initial Exercise Price per share of Common Stock for any Warrant is equal to $0.1921 per share. The Exercise Price is subject to adjustment upon the occurrence of certain events set forth in the Warrant Agreement.

Subject to the conditions set forth in the Warrant Agreement, the Warrants may be exercised only during the Exercise Period and to the extent not exercised by the end of such Exercise Period, such Warrants shall become void.

Reference is hereby made to the further provisions of this Warrant Certificate set forth on the reverse hereof and such further provisions shall for all purposes have the same effect as though fully set forth at this place.

This Warrant Certificate shall not be valid unless countersigned by the Warrant Agent, as such term is used in the Warrant Agreement.

This Warrant Certificate shall be governed by and construed in accordance with the internal laws of the State of New York, without regard to conflicts of laws principles thereof.

**IN WITNESS WHEREOF** , the parties hereto have caused this Warrant Certificate to be duly executed as of the date first above written.

**IMMUNOCELLULAR THERAPEUTICS, LTD.**

By: /s/ Andrew Gengos

Name: Andrew Gengos

Title: President & CEO

**COMPUTERSHARE INC.,** as Warrant Agent

By: /s/ Dan DeWeever

Name: Dan DeWeever

Title: Product Director

**COMPUTERSHARE TRUST COMPANY, N.A.,** as Warrant Agent

By: /s/ Dan DeWeever

Name: Dan DeWeever

Title: Product Director

**SIGNATURE PAGE TO WARRANT CERTIFICATE**

**[Form of Warrant Certificate]**

**[Reverse]**

The Warrants evidenced by this Warrant Certificate are part of a duly authorized issue of Warrants entitling the holder on exercise to receive shares of Common Stock and are issued or to be issued pursuant to a Warrant Agreement dated as of _____ ____, 2016 (the " ***Warrant Agreement*** "), duly executed and delivered by the Company to Computershare Inc., a Delaware corporation, and its wholly-owned subsidiary, Computershare Trust Company, N.A., a federally chartered trust company, collectively as the Warrant Agent (the " ***Warrant Agent*** "), which Warrant Agreement is hereby incorporated by reference in and made a part of this instrument and is hereby referred to for a description of the rights, limitation of rights, obligations, duties and immunities thereunder of the Warrant Agent, the Company and the holders (the words "holders" or "holder" meaning the Registered Holders or Registered Holder) of the Warrants. A copy of the Warrant Agreement may be obtained by the holder hereof upon written request to the Company. Defined terms used in this Warrant Certificate but not defined herein shall have the meanings given to them in the Warrant Agreement. Warrants may be exercised at any time during the Exercise Period set forth in **Section 3.3** of the Warrant Agreement.

The Warrant Agreement provides that upon the occurrence of certain events the number of shares of Common Stock issuable upon exercise of the Warrants set forth on the face hereof may, subject to certain conditions, be adjusted. If, upon exercise of a Warrant, the holder thereof would be entitled to receive a fractional interest in a share of Common Stock, the provisions of **Section 4.8** of the Warrant Agreement shall apply.

Warrant Certificates, when surrendered at the office of the Warrant Agent by the Registered Holder thereof in person or by legal representative or attorney duly authorized in writing, may be exchanged, in the manner and subject to the limitations provided in the Warrant Agreement, but without payment of any service charge, for another Warrant Certificate or Warrant Certificates of like tenor evidencing in the aggregate a like number of Warrants.

Upon due presentation for registration of transfer of this Warrant Certificate at the office of the Warrant Agent, a new Warrant Certificate or Warrant Certificates of like tenor and evidencing in the aggregate a like number of Warrants shall be issued to the transferee(s) in exchange for this Warrant Certificate, subject to the limitations provided in the Warrant Agreement (including requiring a signature guarantee from an eligible guarantor institution participating in a signature guarantee program approved by the Securities Transfer Association, or other evidence of authority of the transferor required by the Warrant Agent), without charge except for any tax or other governmental charge imposed in connection therewith.

The Company and the Warrant Agent may deem and treat the Registered Holder(s) hereof as the absolute owner(s) of this Warrant Certificate (notwithstanding any notation of ownership or other writing hereon made by anyone), for the purpose of any exercise hereof, of any distribution to the holder(s) hereof, and for all other purposes, and neither the Company nor the Warrant Agent shall be affected by any notice to the contrary. Neither the Warrants nor this Warrant Certificate entitles any holder hereof to any rights of a stockholder of the Company.

**Election to Purchase**

**(To Be Executed Upon Exercise of Warrant)**

The undersigned hereby irrevocably elects to exercise the right, represented by this Warrant Certificate, to receive shares of Common Stock and herewith tenders payment for such shares to the order of ImmunoCellular Therapeutics, Ltd. (the " ***Company*** ") in the amount of $_____ in accordance with the terms hereof. The undersigned requests that a certificate for such shares be registered in the name of _____, whose address is _____, and that such shares be delivered to _____, whose address is _____. If said number of shares is less than all of the shares of Common Stock purchasable hereunder, the undersigned requests that a new Warrant Certificate representing the remaining balance of such shares be registered in the name of _____, whose address is _____, and that such Warrant Certificate be delivered to _____, whose address is _____.

In the event that the Warrant is to be exercised on a "cashless" basis pursuant to **Section 3.3.2** of the Warrant Agreement, the number of shares that this Warrant is exercisable for shall be determined in accordance with **Section 3.3.2** of the Warrant Agreement.

_____ a " ***Cash Exercise*** " with respect to _____ Warrant Shares; and/or

_____ a " ***Cashless Exercise*** " with respect to _____Warrant Shares, resulting in a delivery obligation by the Company to the Holder of shares of Common Stock representing the applicable Net Number, subject to adjustment.

In the event that the Warrant may be exercised, to the extent allowed by the Warrant Agreement, through cashless exercise (i) the number of shares that this Warrant is exercisable for shall be determined in accordance with the relevant section of the Warrant Agreement which allows for such cashless exercise and (ii) the holder hereof shall complete the following: The undersigned hereby irrevocably elects to exercise the right, represented by this Warrant Certificate, through the cashless exercise provisions of the Warrant Agreement, to receive shares of Common Stock. If said number of shares is less than all of the shares of Common Stock purchasable hereunder (after giving effect to the cashless exercise), the undersigned requests that a new Warrant Certificate representing the remaining balance of such shares be registered in the name of _____, whose address is _____, and that such Warrant Certificate be delivered to _____, whose address is _____.

Date: _____ ,20

_____
(Signature

_____
Address

_____
(Tax Identification Number)

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133032778 v11

# AMENDMENT TO EMPLOYMENT AGREEMENT

THIS AMENDMENT TO EMPLOYMENT AGREEMENT (" **Amendment** "), between ImmunoCellular Therapeutics, Ltd. (the " **Company** ") and David Fractor (" **Executive** "), is entered into on August 29, 2016.

## RECITALS:

**WHEREAS** , the parties entered into an Employment Agreement on September 17, 2015 (the " **Employment Agreement** "); and

**WHEREAS** , Executive and the Company have agreed to amend certain terms of the Employment Agreement in accordance with the terms hereof.

**NOW THEREFORE** , in consideration of the mutual covenants and agreements hereinafter set forth, the adequacy and sufficiency of which is hereby acknowledged, the Company and Executive agree as follows:

**1.** Section 5.2(ii)(a) of the Employment Agreement shall be amended and restated as follows:

**(a)** The Company shall pay Executive, as severance, six (6) months of Executive's base salary in effect as of the Executive's employment termination, subject to standard payroll deductions and withholdings (the " **Severance** "). The Severance will be paid in equal installments on the Company's regular payroll schedule over the six (6) month period following Executive's Separation from Service; *provided, however* , that no payments will be made prior to the 60 th day following Executive's Separation from Service. On the 60 th day following Executive's Separation from Service, the Company will pay Executive in a lump sum the Severance that Executive would have received on or prior to such date under the standard payroll schedule but for the delay while waiting for the 60 th day in compliance with Code Section 409A, with the balance of the Severance being paid as originally scheduled.

**2.** Section 5.2(ii)(b) of the Employment Agreement shall be amended and restated as follows:

**(b)** Provided Executive timely elects continued coverage under COBRA, the Company shall pay Executive's COBRA premiums to continue Executive's coverage (including coverage for eligible dependents, if applicable) (" **COBRA Premiums** ") through the period (the " **COBRA Premium Period** ") starting on Executive's Separation from Service and ending on the earliest to occur of: (i) six (6) months following Executive's Separation from Service; (ii) the date Executive becomes eligible for group health insurance coverage through a new employer; or (iii) the date Executive ceases to be eligible for COBRA continuation coverage for any reason, including plan termination. In the event Executive becomes covered under another employer's group health plan or otherwise cease to be eligible for COBRA during the COBRA Premium Period, Executive must immediately notify the Company of such event. Notwithstanding the foregoing, if the Company determines, in its sole discretion, that it cannot pay the COBRA Premiums without a substantial risk of violating applicable law (including, without limitation, Section 2716 of the Public Health Service Act), the Company instead shall pay to Executive, on the first day of each calendar month, a fully taxable cash payment equal to the applicable COBRA premiums for that month (including premiums for Executive and Executive's eligible dependents who have elected and remain enrolled in such COBRA coverage), subject to applicable tax withholdings (such amount, the " **Special Cash Payment** "), for the remainder of the COBRA Premium Period. Executive may, but is not obligated to, use such Special Cash Payments toward the cost of COBRA premiums.

Except as modified herein, the terms and conditions of the Employment Agreement shall remain unchanged and in full force and effect.

**IN WITNESS WHEREOF** , the parties hereto have duly executed this Amendment, or caused this Amendment to be duly executed on their respective behalf by their respective duly authorized officers, all effective as of the date and year first written above.

**IMMUNOCELLULAR THERAPEUTICS, LTD.**

By: /s/ Andrew Gengos

**Andrew Gengos**
**Chief Executive Officer**

**Date:** August 29, 2016

**EXECUTIVE**

/s/ David Fractor
**David Fractor**

**Date:** September 14, 2016

**Exhibit 31.1**

**Certification of the Principal Executive Officer Under Section 302 of the Sarbanes-Oxley Act**

I, Andrew Gengos, certify that:

1. I have reviewed this Form 10-Q of ImmunoCellular Therapeutics, Ltd.;

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: November 10, 2016

By: /s/ Andrew Gengos

Name: Andrew Gengos

Title: President and Chief Executive Officer

**Exhibit 31.2**

**Certification of the Principal Financial Officer Under Section 302 of the Sarbanes-Oxley Act**

I, David Fractor, certify that:

1. I have reviewed this Form 10-Q of ImmunoCellular Therapeutics, Ltd.;

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 concluer sions 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: November 10, 2016

By: /s/ David Fractor

Name: David Fractor

Title: Principal Financial and Accounting Officer

**Exhibit 32.1**

**CERTIFICATION OF THE PRINCIPAL EXECUTIVE OFFICER**

Pursuant to the requirement set forth in Rule 13a -14(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. § 1350), the undersigned officer of ImmunoCellular Therapeutics, Ltd. (the "Company") hereby certifies that, to the best of his knowledge:

1. The Company's Quarterly Report on Form 10-Q for the period ended September 30, 2016 ("Periodic Report") fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and
2. The information contained in the Periodic Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 10, 2016

By: /s/ Andrew Gengos

Name: Andrew Gengos

Title: President and Chief Executive Officer

**Exhibit 32.2**

**CERTIFICATION OF THE PRINCIPAL FINANCIAL OFFICER**

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. § 1350), the undersigned officer of ImmunoCellular Therapeutics, Ltd. (the "Company") hereby certifies that, to the best of his knowledge:

1. The Company's Quarterly Report on Form 10-Q for the period ended September 30, 2016 ("Periodic Report") fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and
2. The information contained in the Periodic Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 10, 2016

By: /s/ David Fractor

Name: David Fractor

Title: