November 10, 2015
These slides and the accompanying oral presentation contain forward-looking statements and information. The use of words such as “may,” “might,” “will,” “should,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “project,” “intend,” “future,” “potential,” or “continue,” and other similar expressions are intended to identify forward looking statements. For example, all statements we make regarding the initiation, timing, progress and results of our preclinical and clinical studies and our research and development programs, our ability to advance product candidates into, and successfully complete, clinical studies, the timing or likelihood of regulatory filings and approvals, and our expected cash, cash equivalents and marketable securities at year end are forward looking. All forward-looking statements are based on estimates and assumptions by our management that, although we believe to be reasonable, are inherently uncertain. All forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially from those that we expected. These statements are also subject to a number of material risks and uncertainties that are described in our most recent Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission, as updated by our future filings with the Securities and Exchange Commission. Any forward-looking statement speaks only as of the date on which it was made. We undertake no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events or otherwise, except as required by law.
Q3 Update
Tom Hughes, Ph.D.
Chief Executive Officer
Prepared Remarks
• Q3 Update
  – Tom Hughes, Ph.D., Chief Executive Officer
• Clinical Update
  – Dennis Kim, M.D., Chief Medical Officer
• Financial Results
  – Patty Allen, Chief Financial Officer

Question and Answer Session
• Also available for Q&A
  – Patrick Loustau, President
  – Alicia Secor, Chief Commercial Officer
Beloranib IND was placed on a partial clinical hold by the FDA on October 15, 2015

- Three AE and four SAE related to thrombosis observed across eight clinical trials evaluating >500 patients (does not include events to be potentially identified by new screening procedures)
- Thrombotic events to date seen only in patients randomized to beloranib

<table>
<thead>
<tr>
<th>Study</th>
<th>Dose</th>
<th>Event</th>
<th>Causality per Investigator</th>
<th>Additional Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZAF-201 Obese (completed)</td>
<td>1.2mg</td>
<td>SAE: Pulmonary embolism (PE); thrombophlebitis</td>
<td>Not related to study drug</td>
<td>Factor V Leiden mutation</td>
</tr>
<tr>
<td></td>
<td>2.4mg</td>
<td>SAE: Deep vein thrombosis (DVT); PE</td>
<td>Not related to study drug</td>
<td>Gout attack and extended immobilization</td>
</tr>
<tr>
<td></td>
<td>2.4mg</td>
<td>Thrombophlebitis superficial; moderate AE</td>
<td>Not related to study drug</td>
<td>Varicose veins; Implanted contraceptive</td>
</tr>
<tr>
<td></td>
<td>2.4mg</td>
<td>Thrombophlebitis superficial; mild AE</td>
<td>Not related to study drug</td>
<td>Implanted contraceptive</td>
</tr>
<tr>
<td>ZAF-203 Obese/T2DM (ongoing)</td>
<td>1.2mg</td>
<td>SAE: PE</td>
<td>Not related to study drug</td>
<td>Implanted contraceptive; heart failure; systemic pulmonary inflammatory disease</td>
</tr>
<tr>
<td>ZAF-311 PWS (ongoing)</td>
<td>1.8mg</td>
<td>Thrombophlebitis superficial; DVT; moderate AE</td>
<td>Possibly related to study drug</td>
<td>Extended (6 hour) car ride</td>
</tr>
<tr>
<td></td>
<td>1.8mg</td>
<td>SAE: PE; death</td>
<td>Possibly related to study drug</td>
<td>BMI 55 with multiple co-morbidities</td>
</tr>
</tbody>
</table>
In connection with partial clinical hold, implemented an assessment of thrombotic risk/activity and updated the informed consent form
  - Allows for return to open-label treatment on patient-by-patient basis
  - Patients will undergo continued thromboembolic disease monitoring

Elected to move directly to data analysis for ZAF-311 and ZAF-203 trials
  - Sufficient number of patients had completed randomized treatment to assess the efficacy of beloranib and inform next steps
  - Minimizes impact of dosing interruptions on data integrity

ZAF-311 open-label treatment continuing
  - Patients resuming treatment following screening/informed consent
  - Provides opportunity for additional efficacy/safety experience with the drug

Top-line data from both studies expected in the first quarter of 2016
Loss of function of multiple genes on Chromosome 15
Most common genetic cause of life-threatening obesity
  Prevalence estimates 1:8,000 – 1:50,000

Hallmark symptom of hyperphagia (insatiable appetite)
  Extreme and risky food-seeking behaviors necessitate close monitoring, resulting in very poor quality of life for patients and families

Other common symptoms: hypsosomnolence, poor muscle tone, developmental delays, scoliosis, hypogonadism, mild-moderate cognitive impairment, low metabolic rate

Serious outcomes: morbid obesity, shortened life expectancy (32 years on average)

No cure: high unmet need for therapeutic treatment of obesity and hyperphagia
Emerging Information Regarding Pulmonary Embolism (PE) as a Cause of Death in the PWS Patient Population

- PWSA conference November 5, 2015 – Dr. James Loker presented a new analysis of 310 deaths of known cause in PWS
  - 19 of 310 deaths (6%) were attributed to PE
    - Age at death from PE ranged from 15-64 years (mean 37)
    - BMI at death from PE ranged from 30-80 (mean 55)
    - Four additional patients had ongoing PE but death was attributed to other causes
    - Combined, 7% of deaths were associated with PE
    - PE was the 5th leading cause of death in this study

![Leading Causes of Death*](chart)

*Causes attributed to 5% or more of deaths in the study
Clinical Update
Dennis Kim, M.D.
Chief Medical Officer
**Prader-Willi Syndrome Pivotal ZAF-311 Design and Status**

**Design**

**ZAF-311 Phase 3 PWS Trial**

- Enrolled 102 patients; upsized enrollment completed in May 2015 (n=108)
- Randomized portion closed (October 16, 2015)
- Open-ended extension offered after OLE

**Statistical Analysis**

- Previously agreed statistical analysis plan (SAP) to evaluate body weight change and hyperphagia-related behavior change as co-primary endpoints using modeling of ITT population

- Analysis proposed to FDA modifies original plan modestly – to model efficacy using ITT results for all patients prior to October 16, 2015 avoiding ‘contamination’ with data following interrupted treatment

- Given the number of patients comprising the ITT population (next slide), the original powering assumption of 90% is still met
Prader-Willi Syndrome ZAF-311
Patient Status as of November 6, 2015

108 Patients
Enrolled

One patient never received study drug

107 Patients
Receiving Randomized Study Drug

Six early terminations, including one death

75 Patients
Dosing regimen completed (week 29)

26 Patients
Completing at least 23 weeks of randomized treatment

ITT population

Two-step screening process:
- Lower limb ultrasound plus D-dimer
- If D-dimer is positive, repeat analysis
- Patients clearing ultrasound and D-dimer are eligible to receive open label treatment if re-consented*

* If necessary, PE will be ruled out before resuming beloranib
Prader-Willi Syndrome ZAF-311
Screening Status as of November 6, 2015

<table>
<thead>
<tr>
<th>Screening</th>
<th>Positive</th>
<th>Negative</th>
<th>Pending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultrasound (85)</td>
<td>2*</td>
<td>77</td>
<td>6</td>
</tr>
<tr>
<td>D-Dimer (79)</td>
<td>17**</td>
<td>53</td>
<td>9</td>
</tr>
</tbody>
</table>

*Includes two patients with deep vein thrombosis (DVT), one of which was previously diagnosed with DVT.
** Of the 17 positive results, one has been cleared following repeat testing and one by CT scan. Other positive findings are in various stages of retesting.

- Screening represents snapshot of current status
- We are not able to assess whether positive ultrasound screens represent ongoing or prior stabilized disease
- Baseline rates of positive ultrasounds for occult DVT are presently unknown, but will be assessed prospectively in a separate PWS patient population
Screening Update:

- 55 patients have cleared screening
  - 40 patients are in process for consent and/or site review of amended protocol
  - 13 patients have resumed dosing
  - 2 have withdrawn consent

- 49 patients currently in screening process

- 2 patients have terminated from the study due to evidence of thromboembolic disease
ZAF-203 Phase 2b study assessing weight loss and glycemic control at 6 and 12 months

- Study started December 2014
- 150 patients with BMI 30-60 kg/m²
- Patients with type 2 diabetes treated with agents other than insulin
- 1.2 mg and 1.8 mg vs. placebo
- Trial fully enrolled; trial stopped on October 16, 2015 following the partial clinical hold
 Successfully contacted 148 of 152 patients
  – Continue to work to contact remaining 4 patients, of which 3 are early terminations and 1 was lost to follow-up
  – Completed 41 of the 152 termination visits
  – Aiming to complete remainder by end of 2015

The study is still very well-powered for weight change and HbA1c endpoints at 6 months
  – ~60 patients completed 6 months of treatment
Screening Status as November 6, 2015

Screening: 138 (91%) completed to-date

<table>
<thead>
<tr>
<th>Ultrasounds</th>
<th>Positive</th>
<th>Negative</th>
<th>Pending</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2*</td>
<td>132</td>
<td>4</td>
</tr>
</tbody>
</table>

*1 DVT and 1 superficial thrombophlebitis

- Screening represents snapshot of current status
- We are not able to assess whether positive ultrasound screens represent ongoing or prior stabilized disease
- Baseline rates of positive ultrasounds for occult DVT are presently unknown
Q3 Financial Results
Patty Allen
Chief Financial Officer
Q3 2015 Selected Financial Summary

<table>
<thead>
<tr>
<th>Balance Sheets</th>
<th>September 30, 2015</th>
<th>December 31, 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash, cash equivalents and marketable securities</td>
<td>$ 204.0M</td>
<td>$ 115.5M*</td>
</tr>
<tr>
<td>Total Assets</td>
<td>$ 207.4M</td>
<td>$ 117.5M</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Research &amp; Development Expenses</td>
<td>$ 14.2M</td>
<td>$ 12.1M</td>
</tr>
<tr>
<td>General &amp; Administrative Expenses</td>
<td>$ 5.5M</td>
<td>$ 2.3M</td>
</tr>
<tr>
<td>Net Loss</td>
<td>$ 19.9M</td>
<td>$ 14.7M</td>
</tr>
</tbody>
</table>

Expect to end 2015 with greater than $180 million in cash

Strong position to drive our programs forward

*Pro-forma cash position at December 31, 2014 of $245 million includes $130 million of net proceeds from follow-on offering in January 2015
Q&A
Closing Remarks
Tom Hughes, Ph.D.
Chief Executive Officer