Oxygen Biotherapeutics

Employing O_2. Preserving Life.

Annual Meeting of Stockholders
Friday, August 31, 2012
Raleigh, NC

Legal Disclaimer

This Presentation contains forward looking statements which reflect the Company's plans, goals and expectations as of this date. All statements other than statements of historical facts which address the Company's expectations on such matters as sources of capital, the Company's plans for the future with respect to financial performance or operating strategies, can be identified as forward-looking statements. The Private Securities Litigation Reform Act of 1995 provides a safe harbor for forward looking information made on the Company's behalf. Actual results may differ materially from the expectations expressed in the forward-looking statements. There can be no assurance that those plans, goals or expectations will be realized. Additional information concerning these and other risk factors affecting Oxygen Biotherapeutics, Inc.'s business can be found in the company's public periodic filings with the Securities and Exchange Commission, which are available via www.oxybiomed.com. Oxygen Biotherapeutics, Inc. disclaims any intent or obligation to update these forward-looking statements beyond the date of this release. This caution is made under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. This presentation is not an offer or a solicitation of an offer to buy any securities in the Company.

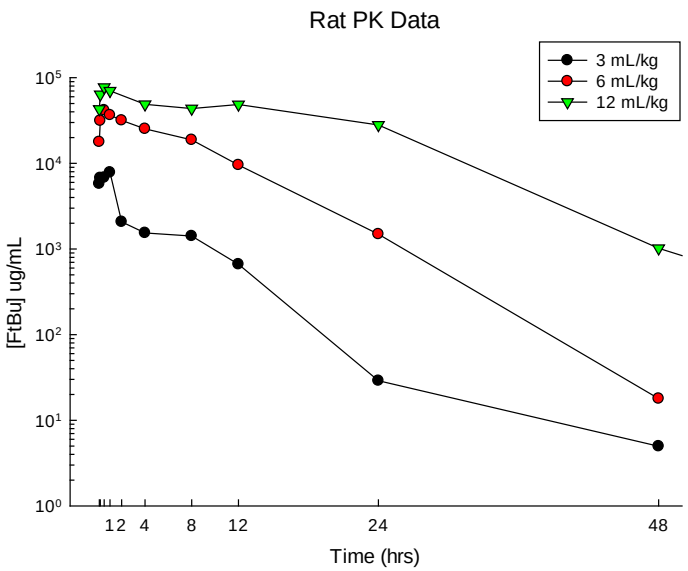
Addressing the Clinical Hold

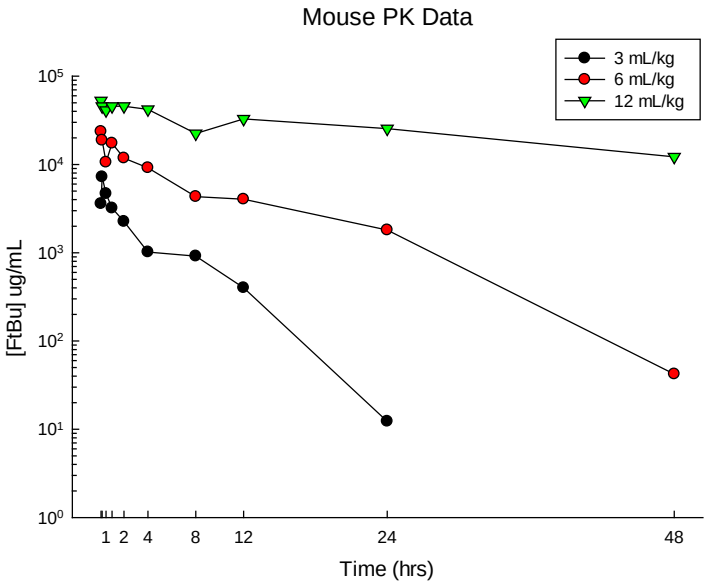
FDA has two major concerns: thrombocytopenia and immunocompetence

- **OBI has planned preclinical program to address all concerns.**
  - Effects of platelet transfusion in treating thrombocytopenia in ICH rat model
  - Platelet distribution in non-human primates with acute systemic inflammation
  - In vitro platelet function (activation and aggregation) studies, in vitro, comparing normal vs. TBI blood
  - Immunocompetence studies: effects of Oxycyte on bacterial opsonization and resistance to infections
- **Studies scheduled to begin 1Q12 and complete in 2013.**
- **Work being funded by $2.0m Department of Defense grant.**

DoD-funded Preclinical Studies–Goal to Lift FDA Hold

- ***Bioanalytical Method Development:***
  - GLP-validated bioanalytical method for detection of FtBu in rat whole blood was completed in June 2012. Method used to analyze rat PK study samples.
  - Qualified bioanalytical method for detection of FtBu in mouse whole blood was completed in June 2012. Method used to analyze mouse PK study samples.
- ***Pharmacokinetics (PK)*:**
  - Rat and mouse studies to determine the pharmacokinetics of FtBu in whole blood following a single intravenous administration of Oxycyte were completed July 2012.
  - PK data analysis underway. Draft bioanalytical data provided below.





DoD-funded Preclinical Studies–Goal to Lift FDA Hold

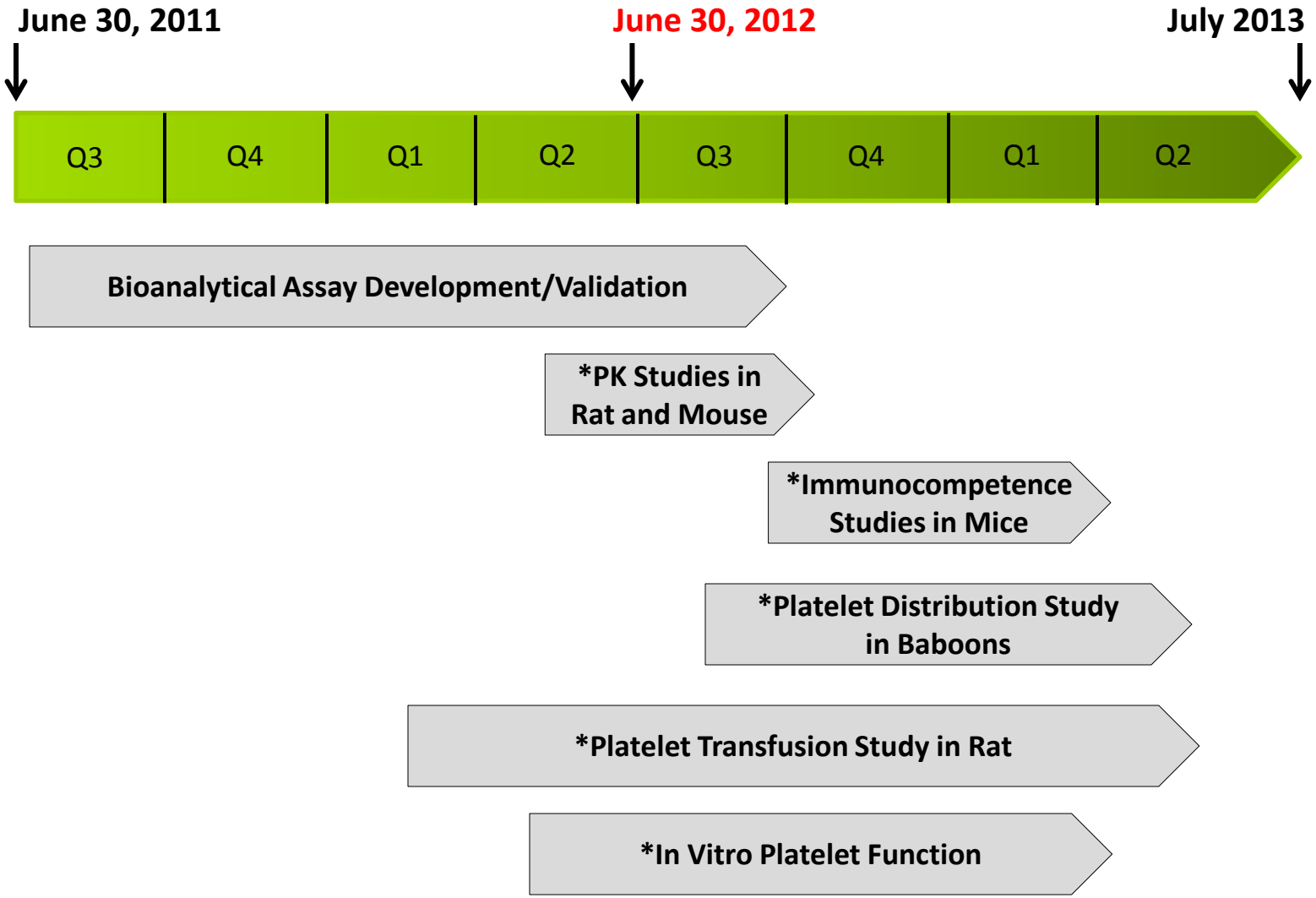
- ***In Vitro Platelet Function using Blood from Normal Healthy Volunteers (NHV) and TBI patients*:**
  - NHV protocol completed Jan. 2012; IRB approval Feb. 2012; FDA approval received April 2012. Protocols contain 5 *in vitro* platelet function assays.
  - NHV enrollment started in May 2012; completed July 2012 at Children's Hospital in Boston (CHB). Draft data pending.
  - Protocol using blood from TBI patients submitted to IRB at Brigham Women's Hospital in Boston Sept. 2012; in vitro experiments will be carried out at CHB.
- ***Immunocompetence*:**
  - Designed proposal submitted to FDA March 2012; approval received May 2012; DoD approval received June 2012;
  - Protocols for 4 studies in mice. Submitted for ACURO approval Aug 2012.; all studies to be completed Sept-Dec. 2012.

DoD-funded Preclinical Studies–Goal to Lift FDA Hold

- ***Platelet Biodistribution Study in Baboon model of Acute Systemic Inflammation*:**
  - Baboon study to be conducted at SNPRC/THSI. Site visit completed.
  - Model development protocol undergoing IACUC review. ACURO review planned for Sept. 2012. Determination of Oxycyte MFD, LPS dose, and PLT profiles following protocol approvals (Sept.-Oct.)
  - Development of imaging study protocols (whole body gamma scintigraphy and diffusion-weighted imaging of brain) underway; Will require review and approval of SNPRC IACUC, DoD ACURO, and FDA prior to study start.
- ***Effects of platelet transfusion on hemostasis in a rat model of intracranial hemorrhage (ICH)***
  - Model being developed in 3 phases: Phase 1, determining platelet and hemostasis profile, completed; Phase 2 ICH model development underway; Phase 3 protocol completed and submitted for ACURO review;
  - Definitive study protocol will be submitted to FDA for review and approval 4Q2012.

Oxygen Biotherapeutics
Employing O_2. Preserving Life.

Army Funded Research Program



Oxygen Biotherapeutics®
Employing O_2. Preserving Life.

** Arrows are start of in-life to delivery of final report .*

Oxygen Biotherapeutics®

Employing O_2. Preserving Life.

Thank you.