



***Developing clinical stage small molecule therapeutics
to treat hormonal and reproductive disorders***

Repros Disclaimer

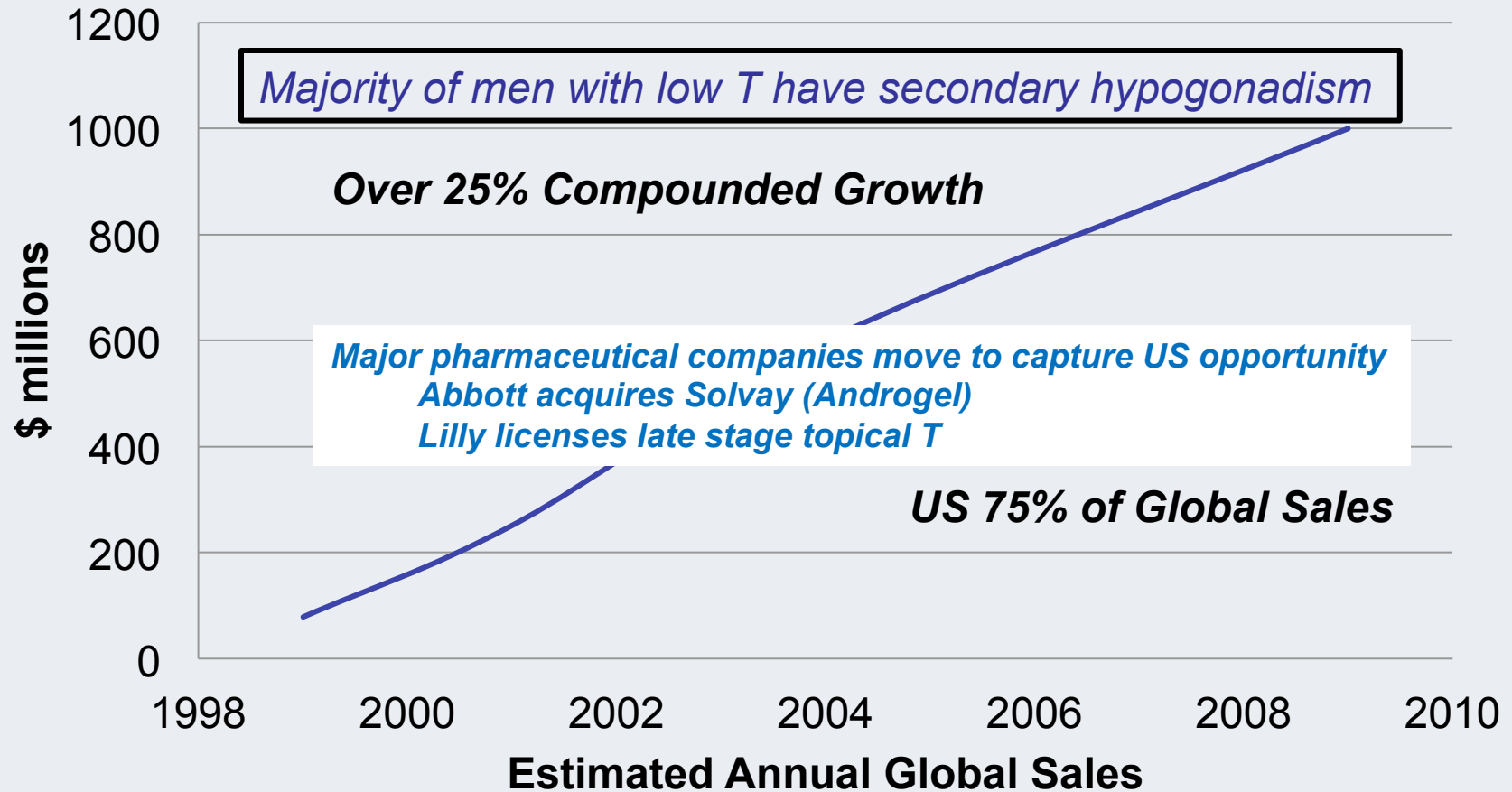
Any statements that are not historical facts contained in this release are forward-looking statements that involve risks and uncertainties, including Repros' ability to have the partial hold on Proellex® lifted and to determine a safe and effective dose for Proellex®, Repros' ability to have success in its clinical trial programs, raise needed additional capital on a timely basis in order for it to continue to fund its operations and pursue its development activities, and such other risks which are identified in the Company's most recent Annual Report on Form 10-K and in any subsequent quarterly reports on Form 10-Q. These documents are available on request from Repros Therapeutics or at www.sec.gov. Repros disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

Repros Strategy

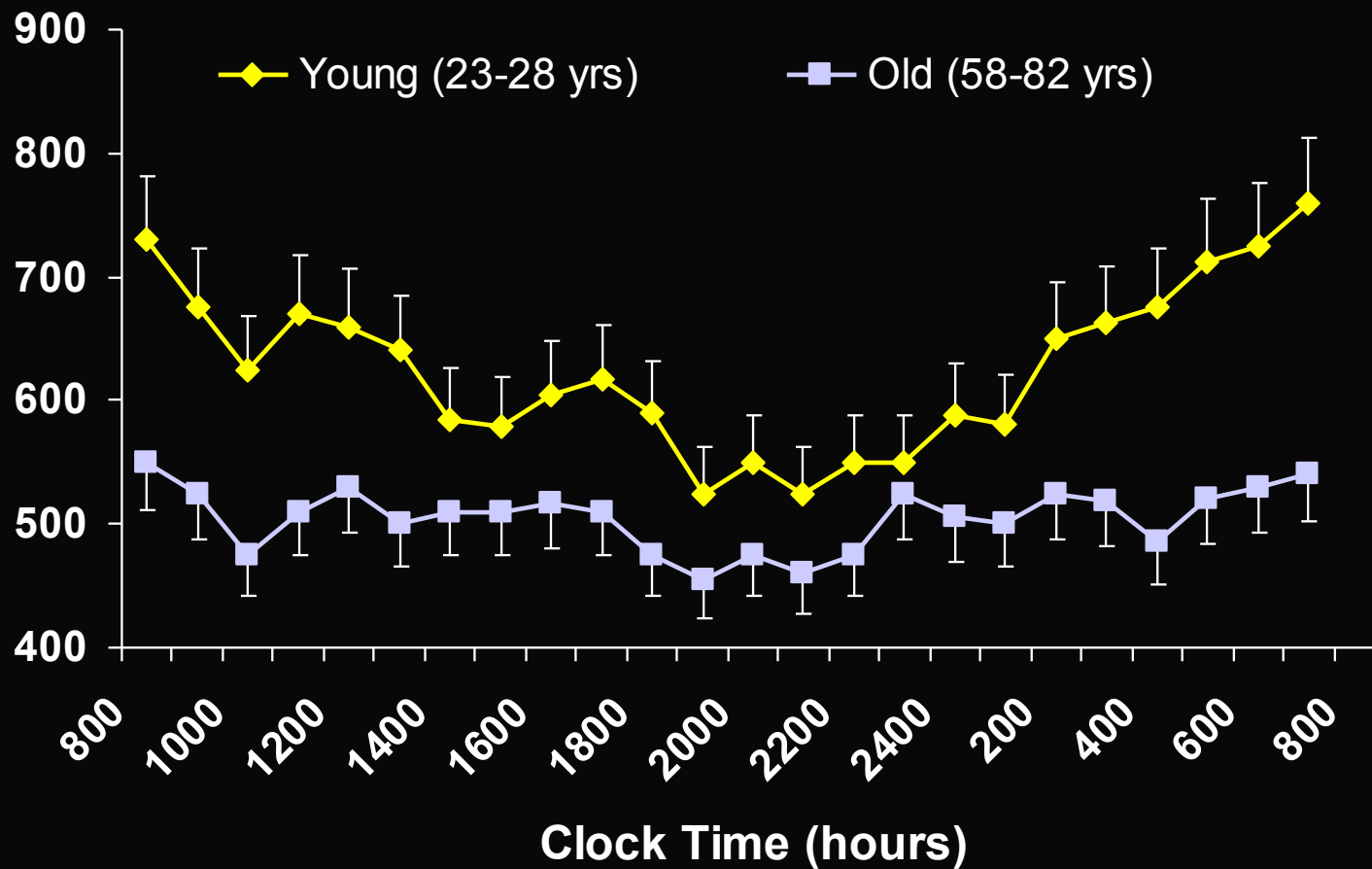
- ***Focus on small molecule therapeutics for hormonal and reproductive system disorders that offer significant market potential and are currently underserved***
- **Out-license or Partner Technologies for Marketing**
- **Strategy coming to fruition**
 - **Late stage development of highly differentiated drugs**
 - **Androxal , an oral treatment of male endocrine disorders (+\$1 billion market)**
 - Normalization of testosterone (T) levels in treatment of 2° hypogonadism (most common cause of low T)
 - Treatment of Type II Diabetes in men with low testosterone
 - **Proellex an oral treatment of female reproductive system disorders (+\$5 billion market)**
 - Chronic relief of uterine fibroid symptoms
 - Chronic relief of the symptoms associated with endometriosis

Testosterone Market Growth

Estimated



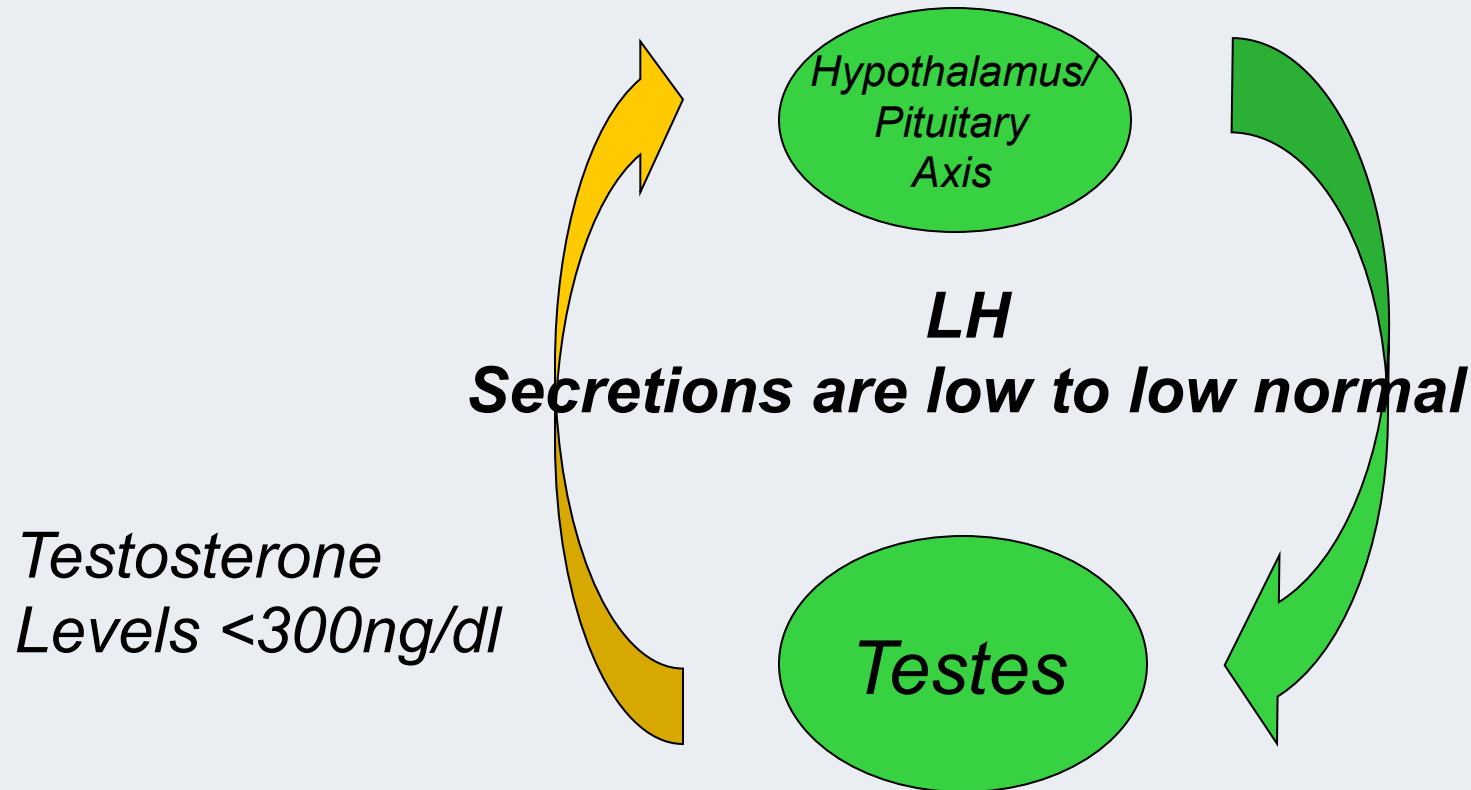
Measurement of Serum Testosterone Levels



Bremner WJ et al. *J Clin Endocrinol Metab.* 1983;56:1278-1281.

Secondary Hypogonadism

a hypothalamic/pituitary defect

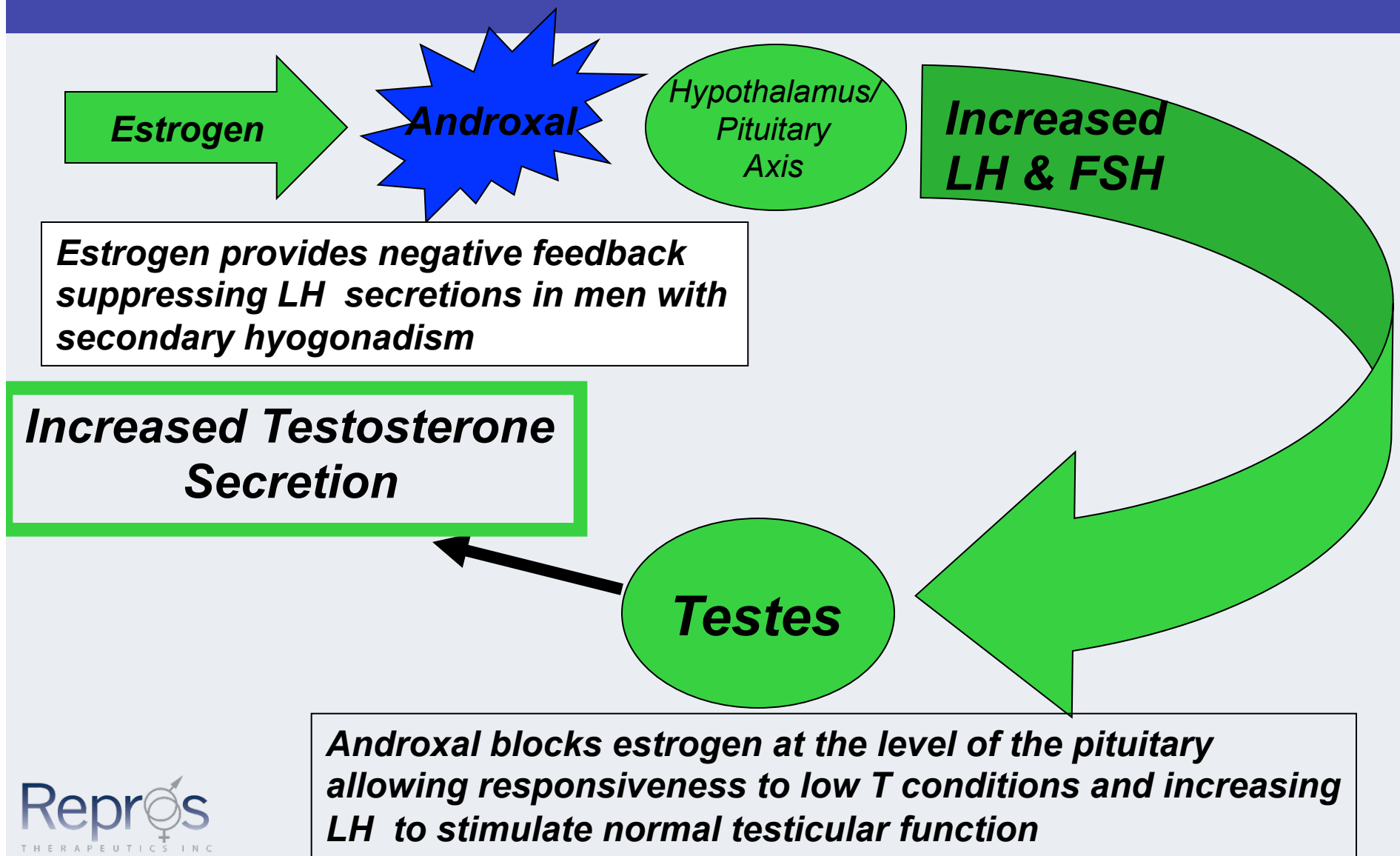


LH Drives Leydig Cell Production of Testosterone

FSH Drives Spermatogenesis in the Sertoli Cells of the Testes

Men with Secondary Hypogonadism Typically Still Fertile

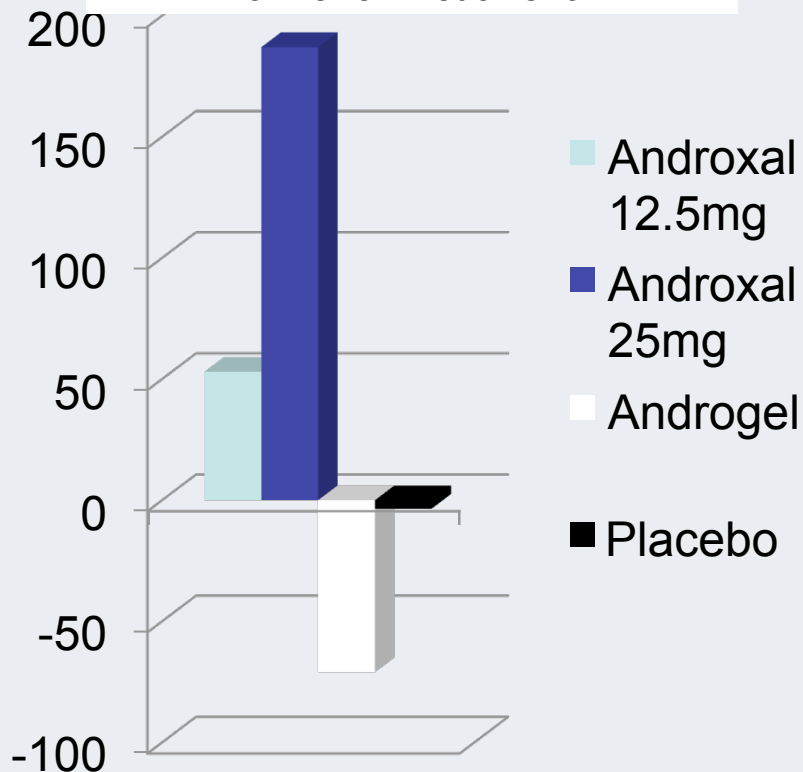
How Androxal Works



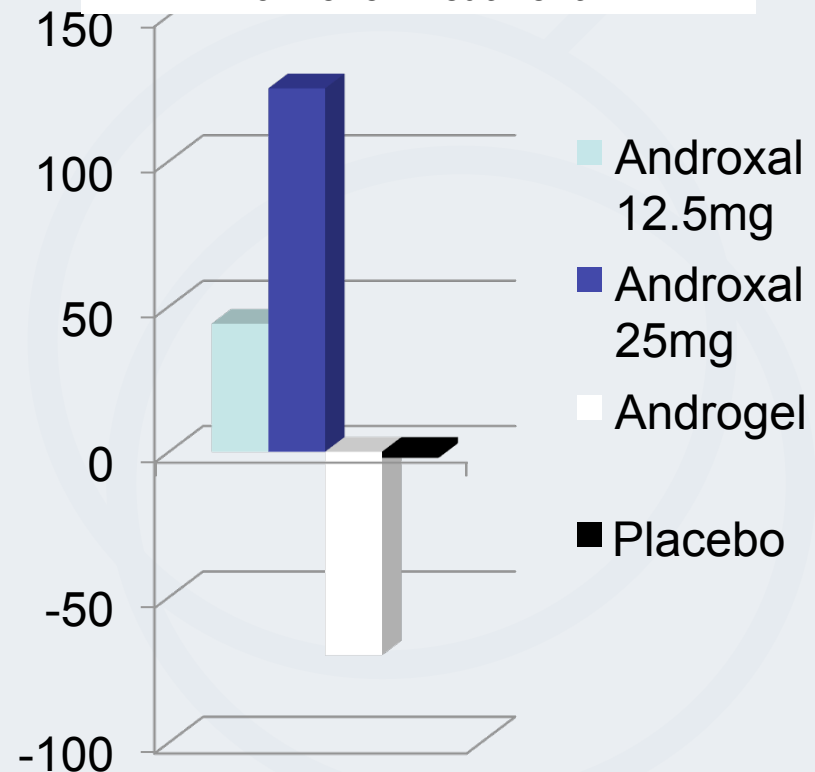
Androxal Improves Pituitary-Testes Signaling

Testosterone Replacement Suppresses Pituitary Responsiveness and Testicular Function

% Change from Baseline in LH after 3 mo. of Treatment



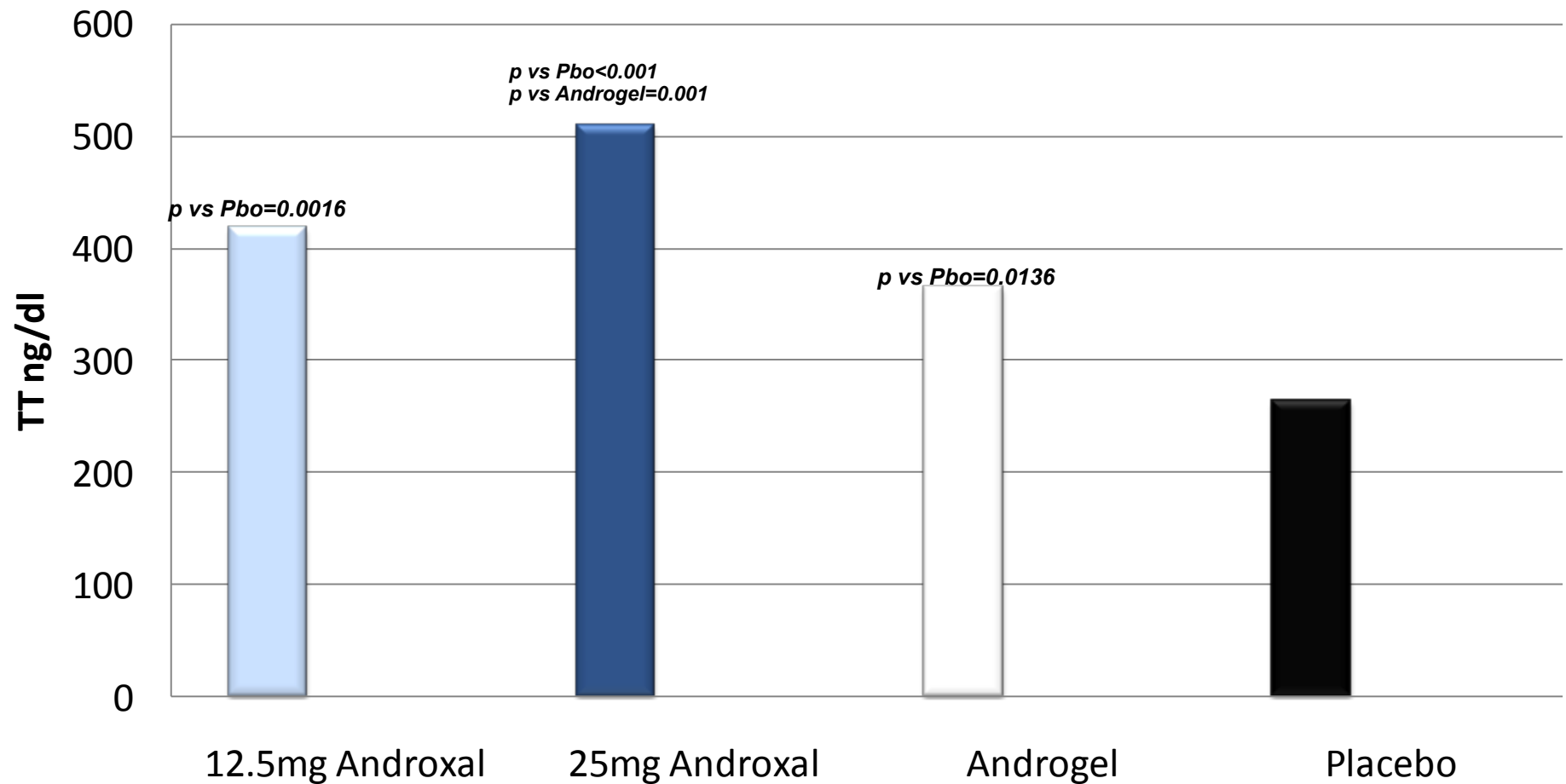
% Change from Baseline in FSH after 3 mo. of Treatment



Previous Androxal Experience ZA-003

n=200

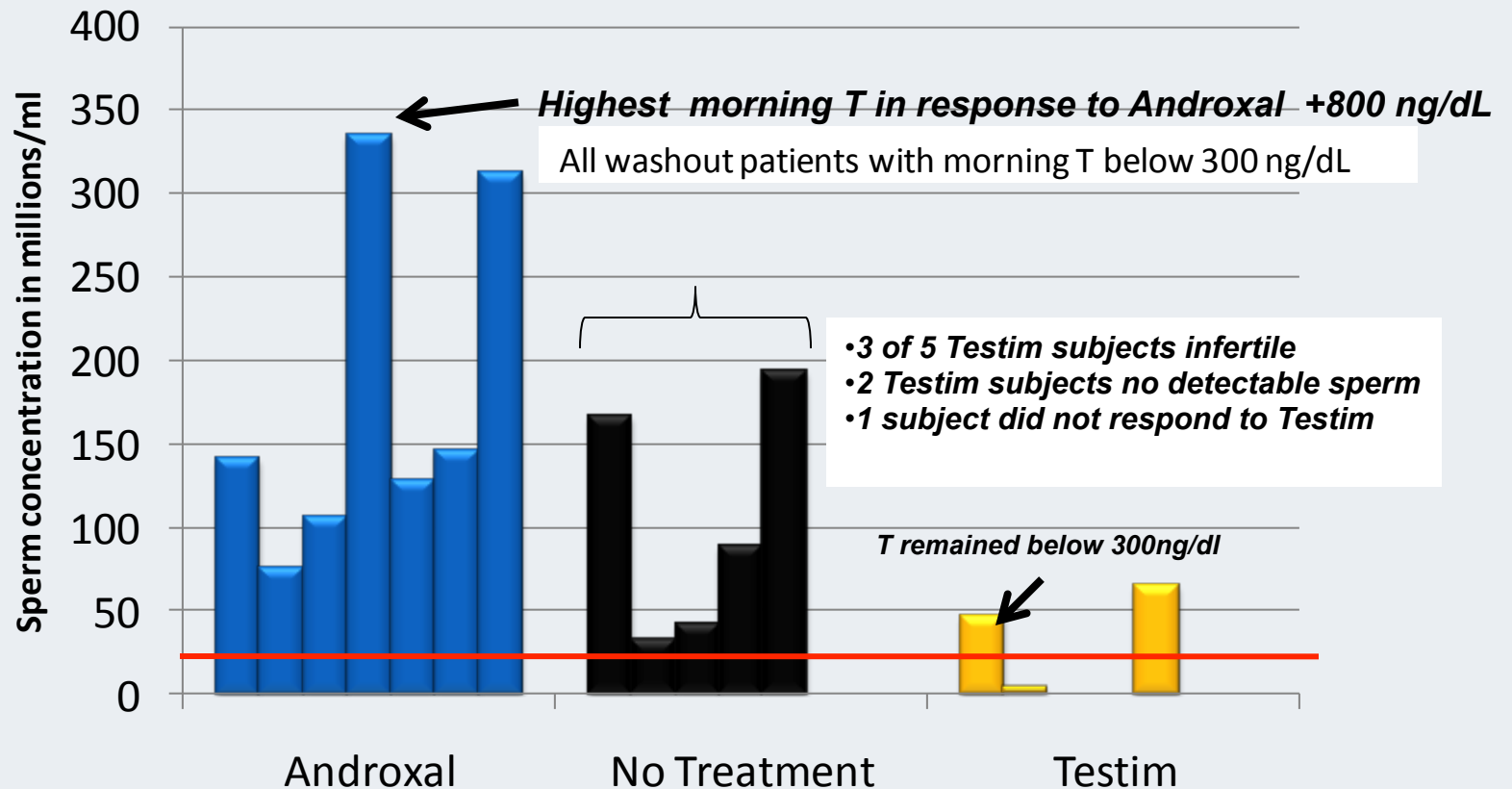
Month 6 Morning Total Testosterone



Repros Study ZA-201

Impact of Treatment on Sperm Counts

*“We agree with your proposal to conduct two Phase 3 placebo and active (topical testosterone) – controlled studies in order to demonstrate the benefit (normalization of serum testosterone while preserving fertility).....”
FDA correspondence 8/4/2010*



Accepted concentration of sperm below which men considered infertile = 20,000,000/ml

Outcome of FDA Nov. 8, 2010 Type B Meeting

- FDA agrees with general plan
- FDA prefers indication to be for the treatment of men with secondary hypogonadism that wish to preserve their reproductive status
- FDA notes that Repros can proceed to Phase III but it will do so at its own risk
- FDA recommends Phase IIb study in men exhibiting morning T < 250 ng/dl and naïve to testosterone treatment before moving to Phase III under an SPA
 - Primary efficacy endpoint
 - Morning testosterone compared to baseline
 - **Repros must confirm morning T predicts T_{max} and T_{avg}**
 - Change in reproductive status is a safety endpoint
 - Comparison of two doses of drug to placebo and topical testosterone
- ***Repros will follow FDA recommendation***

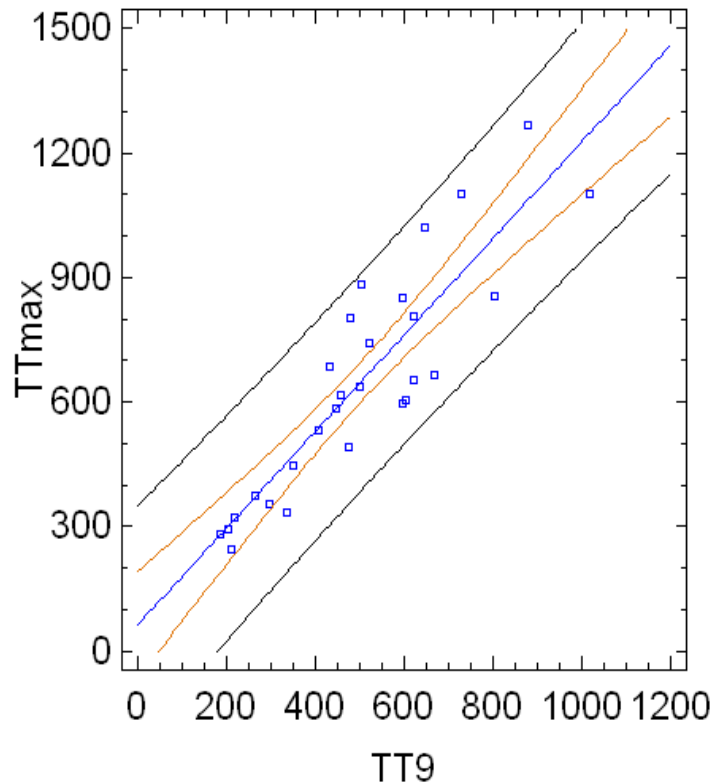
Nov.8, 2010 Meeting

FDA Concerns over Morning T to Predict Tmax and Tavg

Repros reanalysis shows strong correlation with morning T

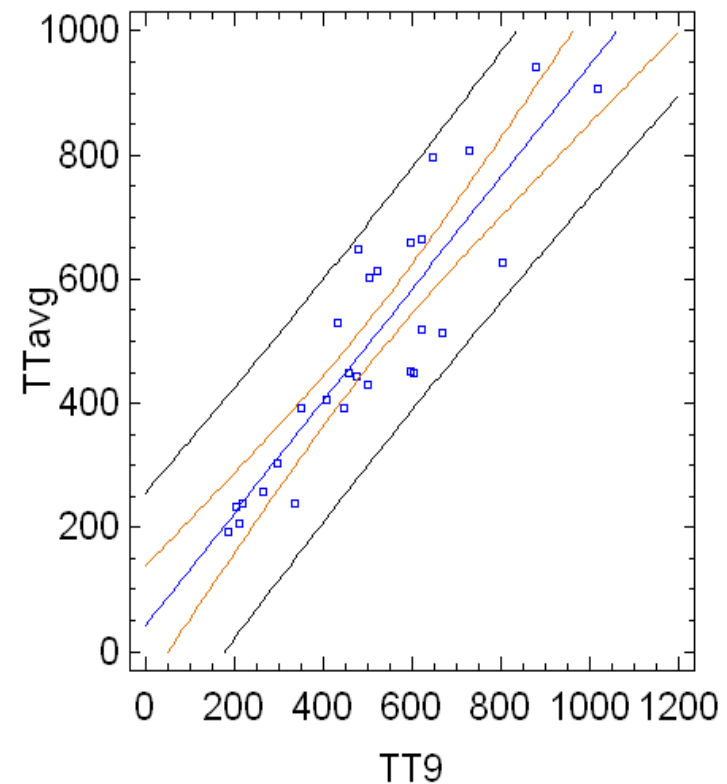
Plot of Fitted Model

$$TT_{max} = 61.5101 + 1.16674 \cdot TT_9$$



Plot of Fitted Model

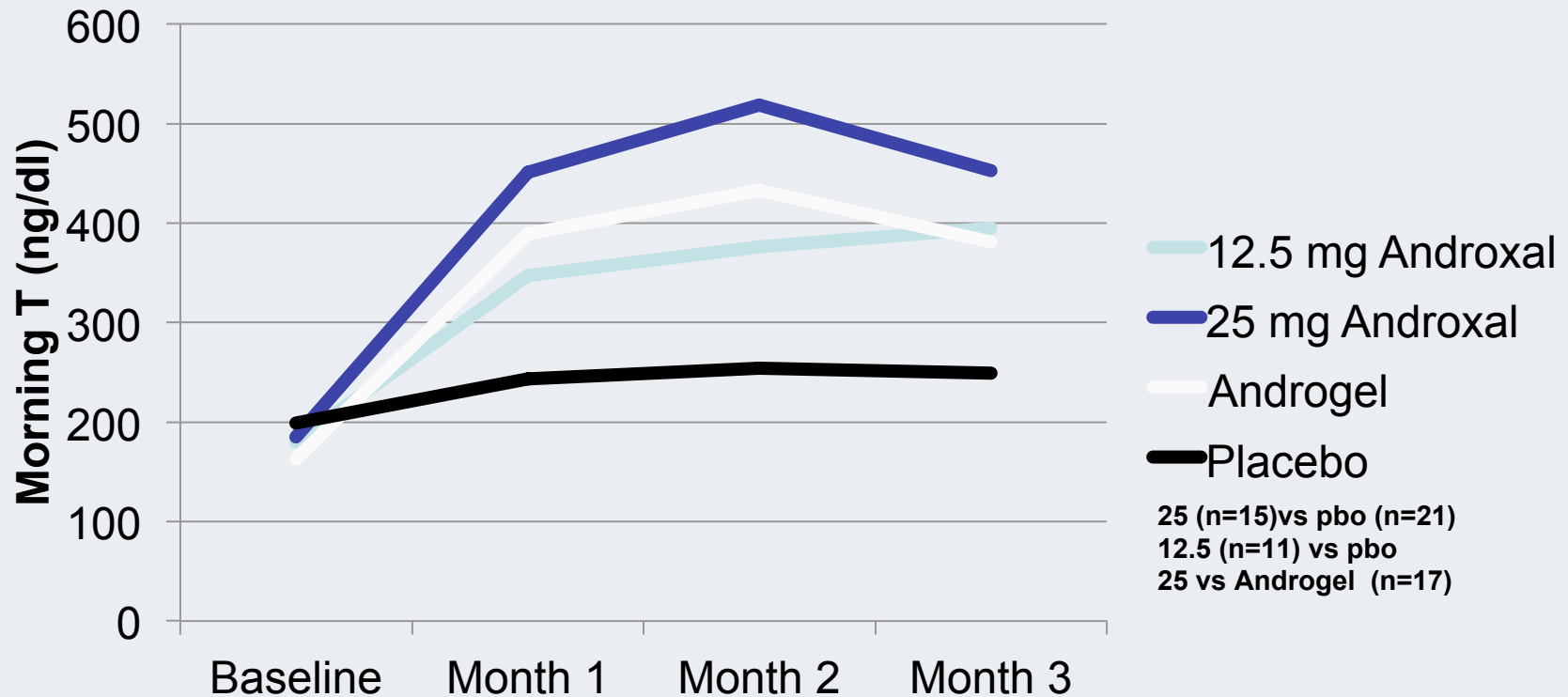
$$TT_{avg} = 41.9372 + 0.904443 \cdot TT_9$$



Nov.8, 2010 Meeting

Subset of Subjects with Morning T <250 ng/dl from ZA-003

Outside Statistical Analysis of Subjects Completing Study



Advantages of Androxal Over Leading Therapies

- **Androxal**

- **Oral Therapy**
- No Partner Risk
- Self Limiting Dose
 - No Abuse
 - No Super-Normal Levels
 - Simple Treatment & Follow-up
 - More Reproducible Results
- Maintain/Restore Fertility
- Restoration of Normal Function
 - **Potential for Non-Chronic Therapy**
- **Potential for significant metabolic benefit**

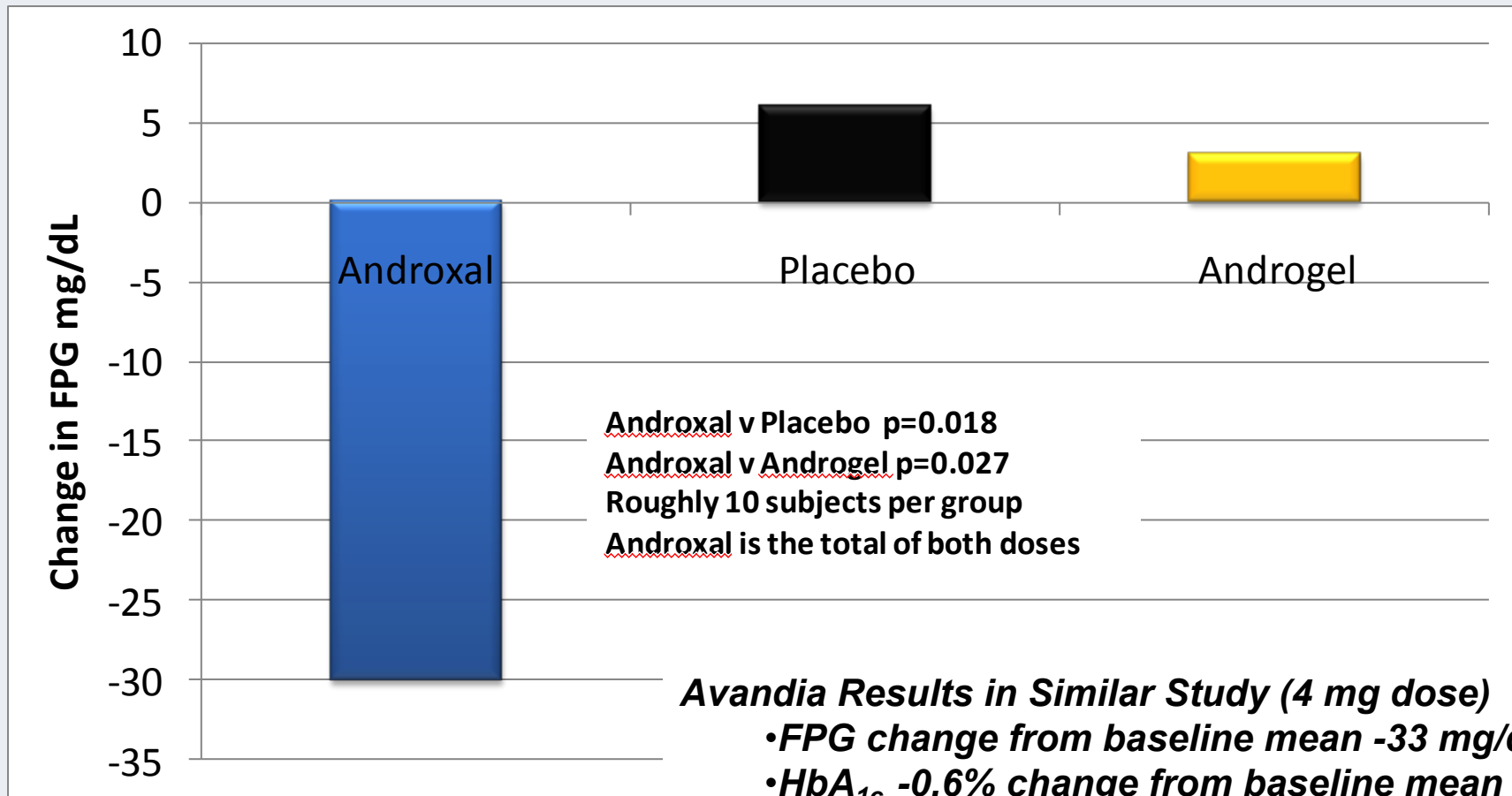
- **T Gels/Creams**

- Controlled Substance
- Partner Risk
 - T exposure risk to female partner for gels **“Black Box Warning”**

- **Dose Selection**

- Non-predictable T Peaks
- Inconvenient Administration
- Potential for Abuse & Prostate Effects
 - Easily Achieves Super-Normal Levels
- Worsens Problem for Secondary Hypogonadism
 - Negative Feedback on LH/FSH
- Causes Infertility & Shrinks Testes

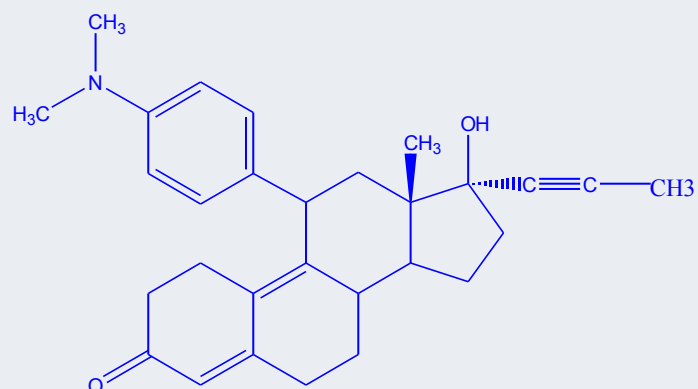
Mean Change in Fasting Plasma Glucose Levels from Baseline



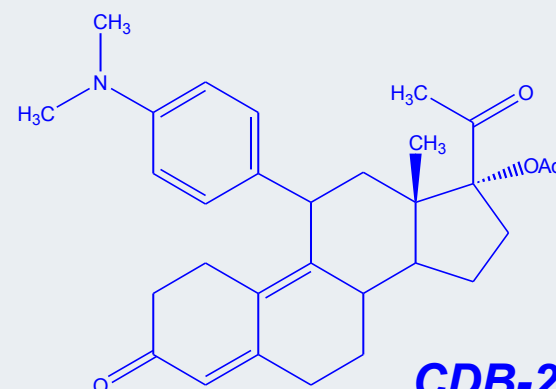
Androxal Summary

- Highly Differentiated Compared to Existing Therapies
 - Treats Underlying Cause for Majority of Hypogonadal Men
 - Robust Efficacy as Determined by Objective Hormonal Assays
 - Non-inferior on All Measures Compared to Leading FDA Approved Therapy
- Patented Oral Therapy (life to 2023)
- Clear Clinical Path
- Low Cost of Androxal API (not a controlled substance) Yields High Profit Margin Compared to Current T Treatments

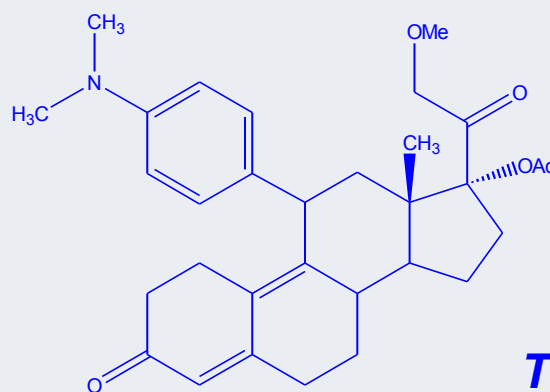
PROELLEX EVOLUTION OF LEAD COMPOUND



CDB-2477 (RU486)



**CDB-2914
Preglem**

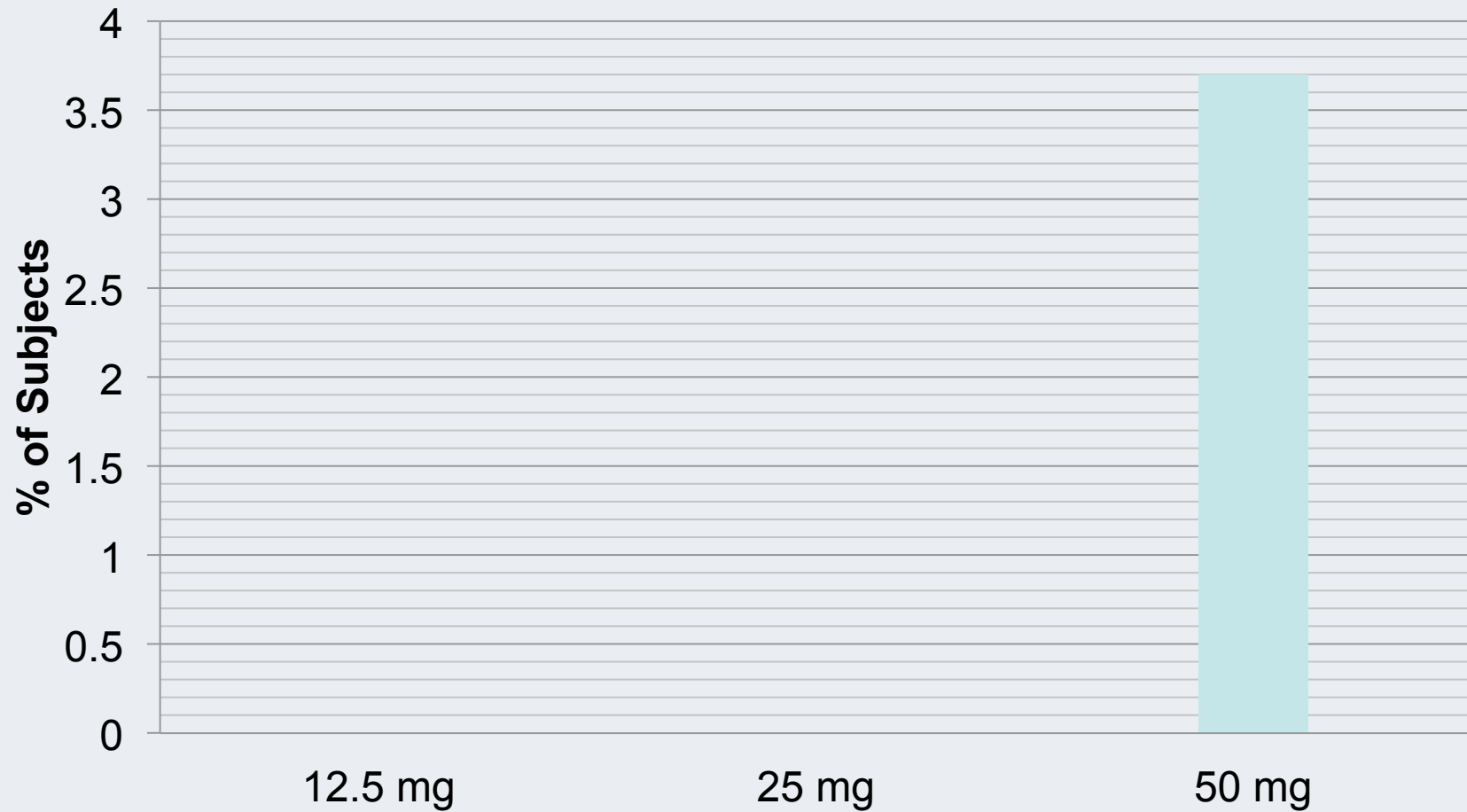


Telapristone acetate

Numerous Analogues Synthesized to Date

Proellex Liver Enzyme Associated SAEs

Exposure for any duration



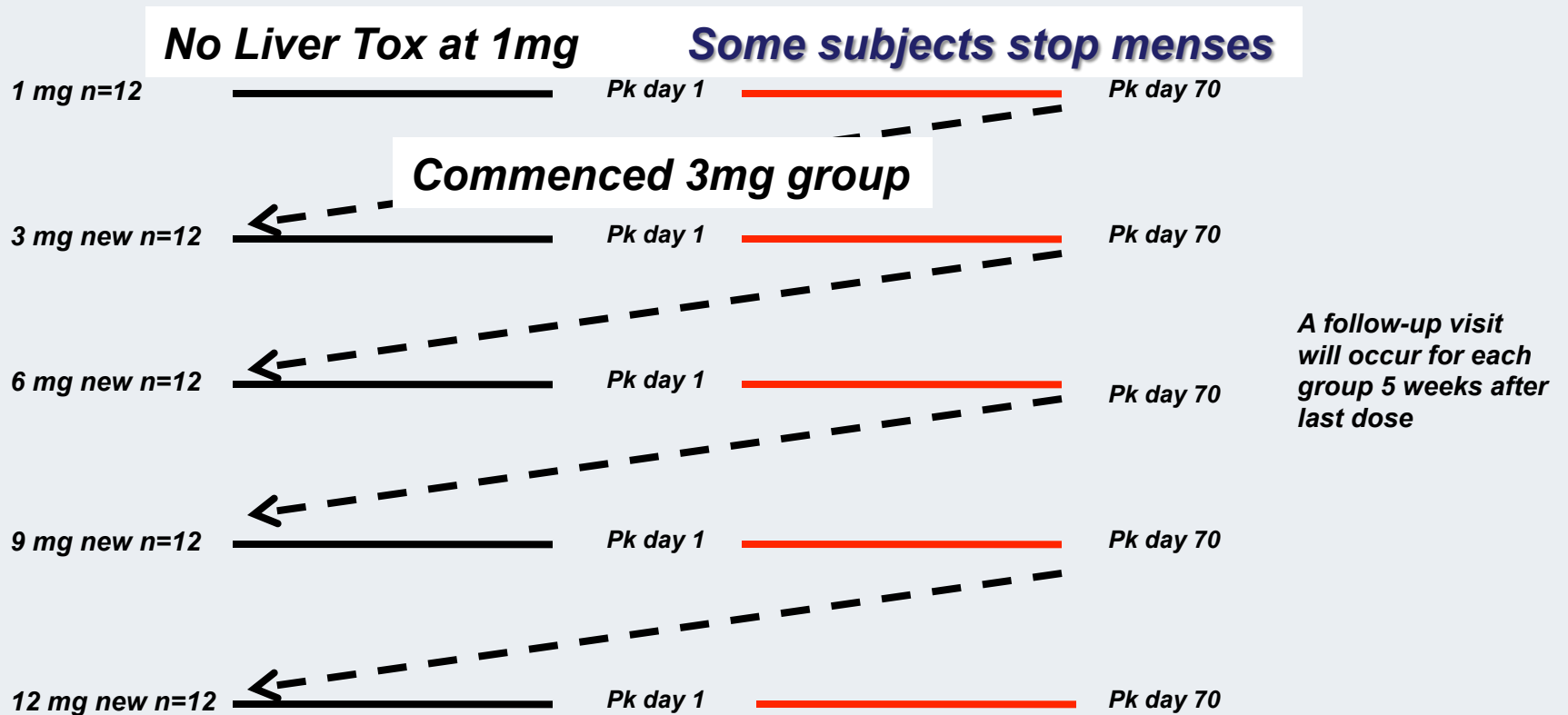
Current Low Dose Study Design Escalating Dose

4-6 week run-in

- Weekly LFTs
- Ovulation & Bleeding Diaries

10 week active dosing

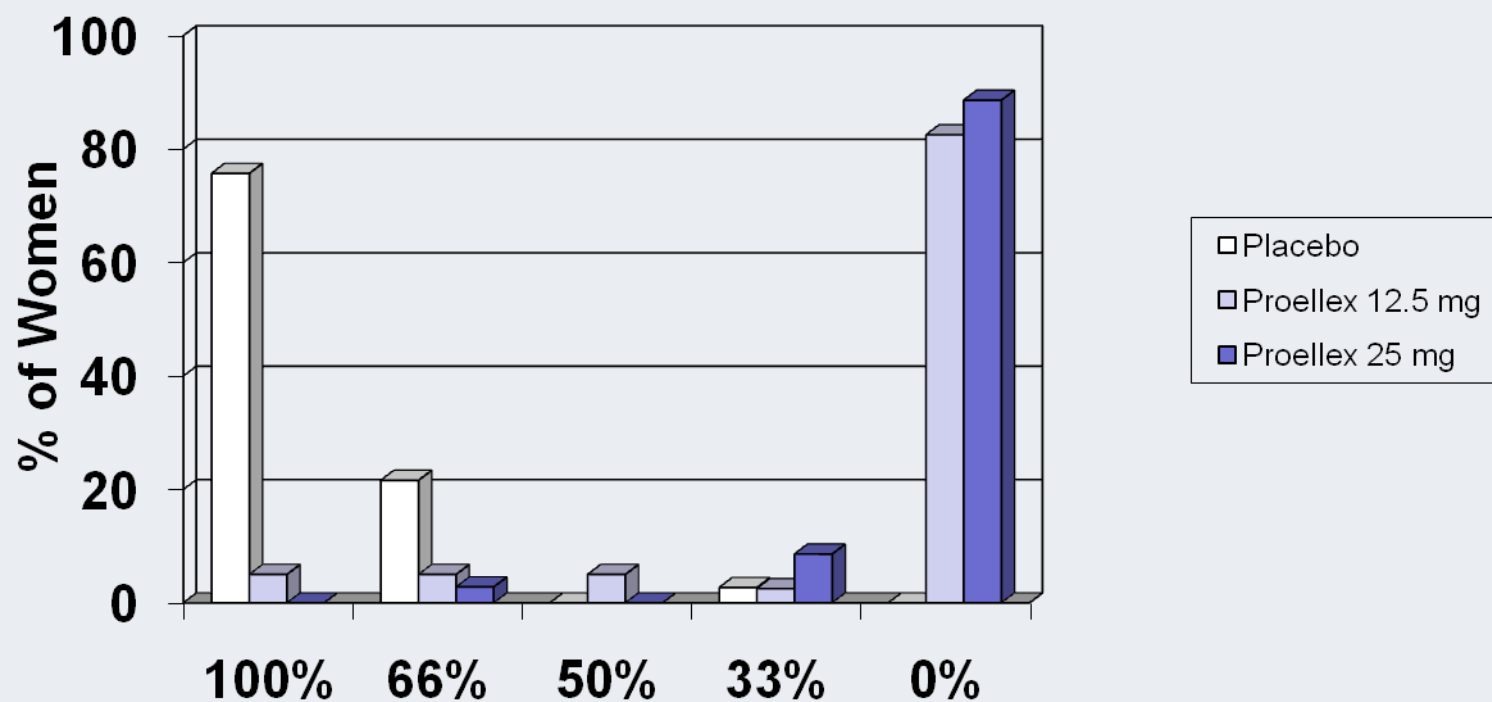
- Weekly LFTs, trough drug conc.
- Ovulation & Bleeding Diaries



ZPU-003

Phase II Uterine Fibroid Study

Percent of Women Continuing to Experience Menstrual Cycles



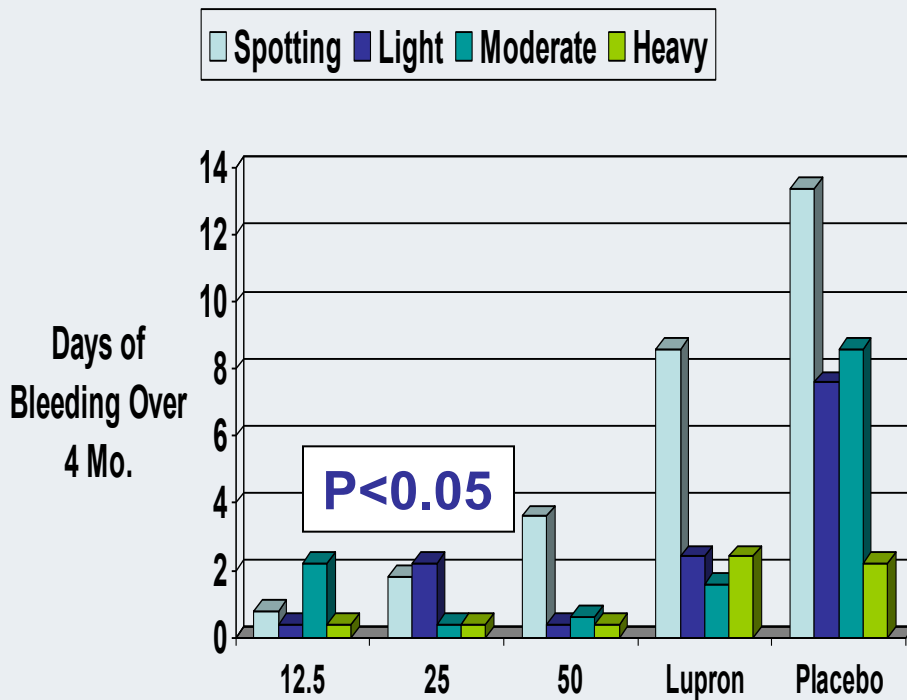
% of Potential Cycles Where Menses Was Observed

- The underlying physiologic outcome of an antiprogestin is to stop menses*
- *Eliminates excessive menstrual bleeding in the case of fibroids*
 - *Eliminates menstrual pain in the case of endometriosis*

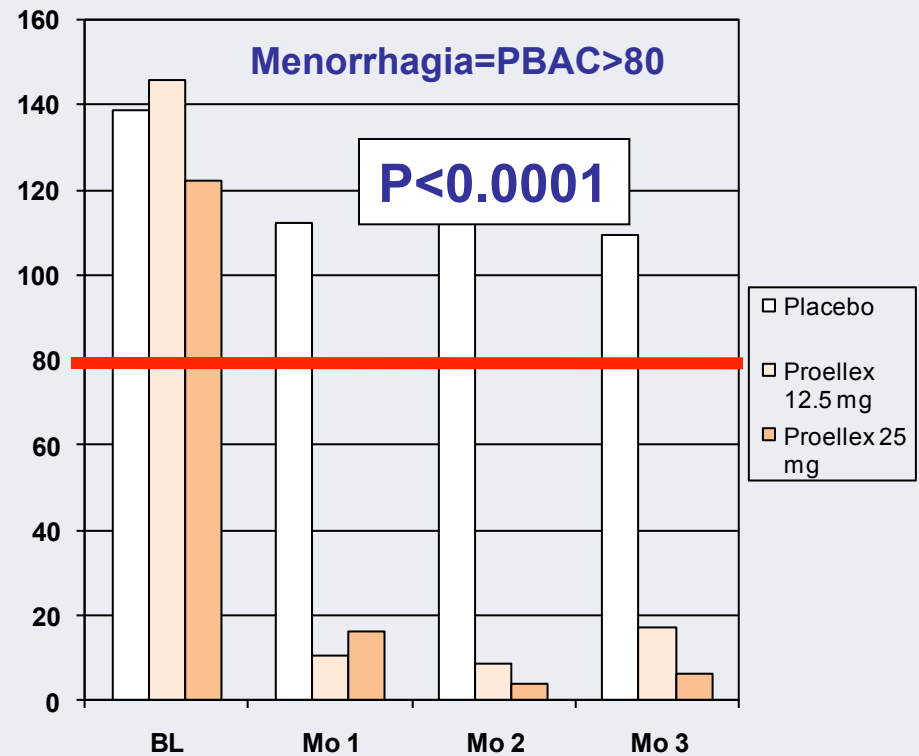
Can a Low Dose Work?

*Key Symptom Driving Women to Seek Therapy
for Uterine Fibroids
“Excessive Menstrual Bleeding”*

Days of Vaginal Bleeding Over 4 Months



European Pilot Study
(n=30)

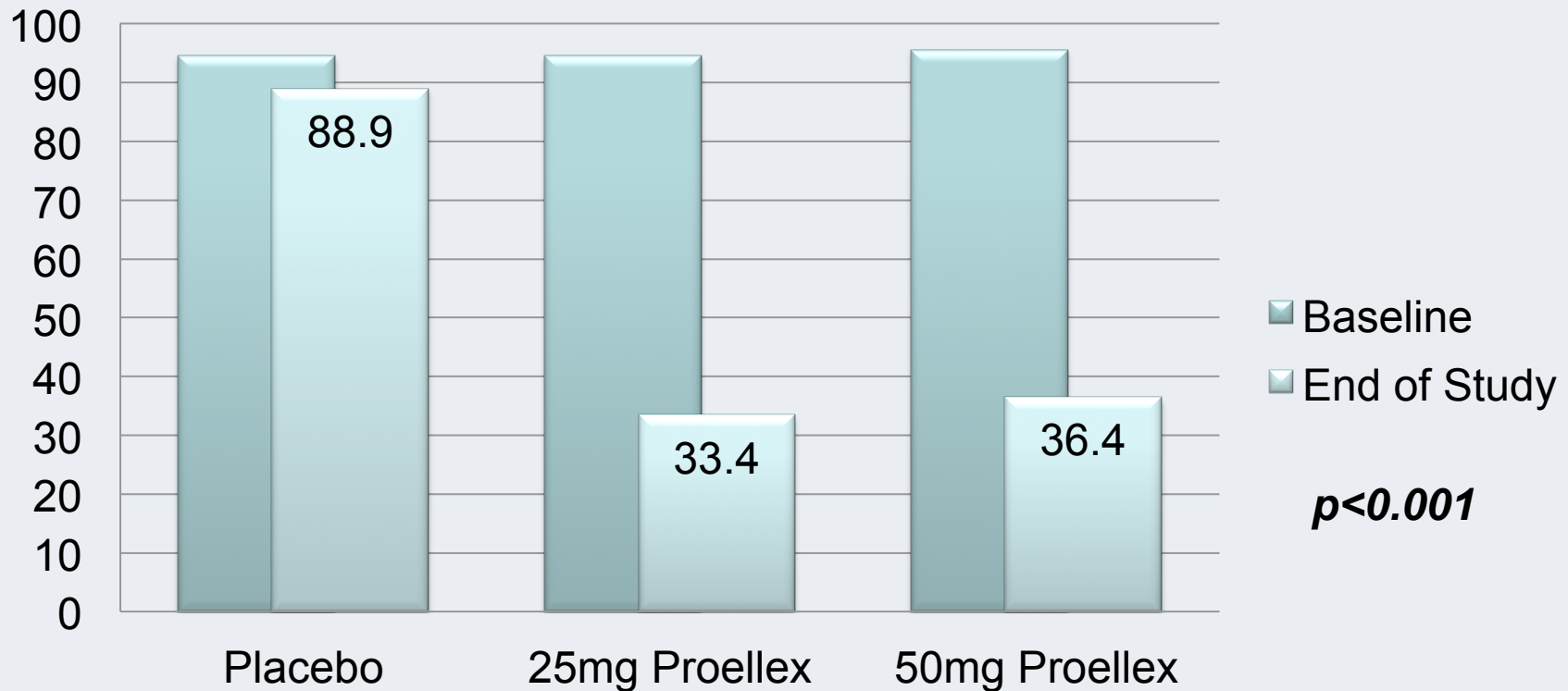


US Phase IIb
(n=127)

•Basis for Commencement of US Phase III Studies

Impact of Proellex on Need for Analgesics in Treatment of Endometriosis Symptoms

% of Subjects Requiring Narcotic or Non Narcotic Analgesics at End of Study

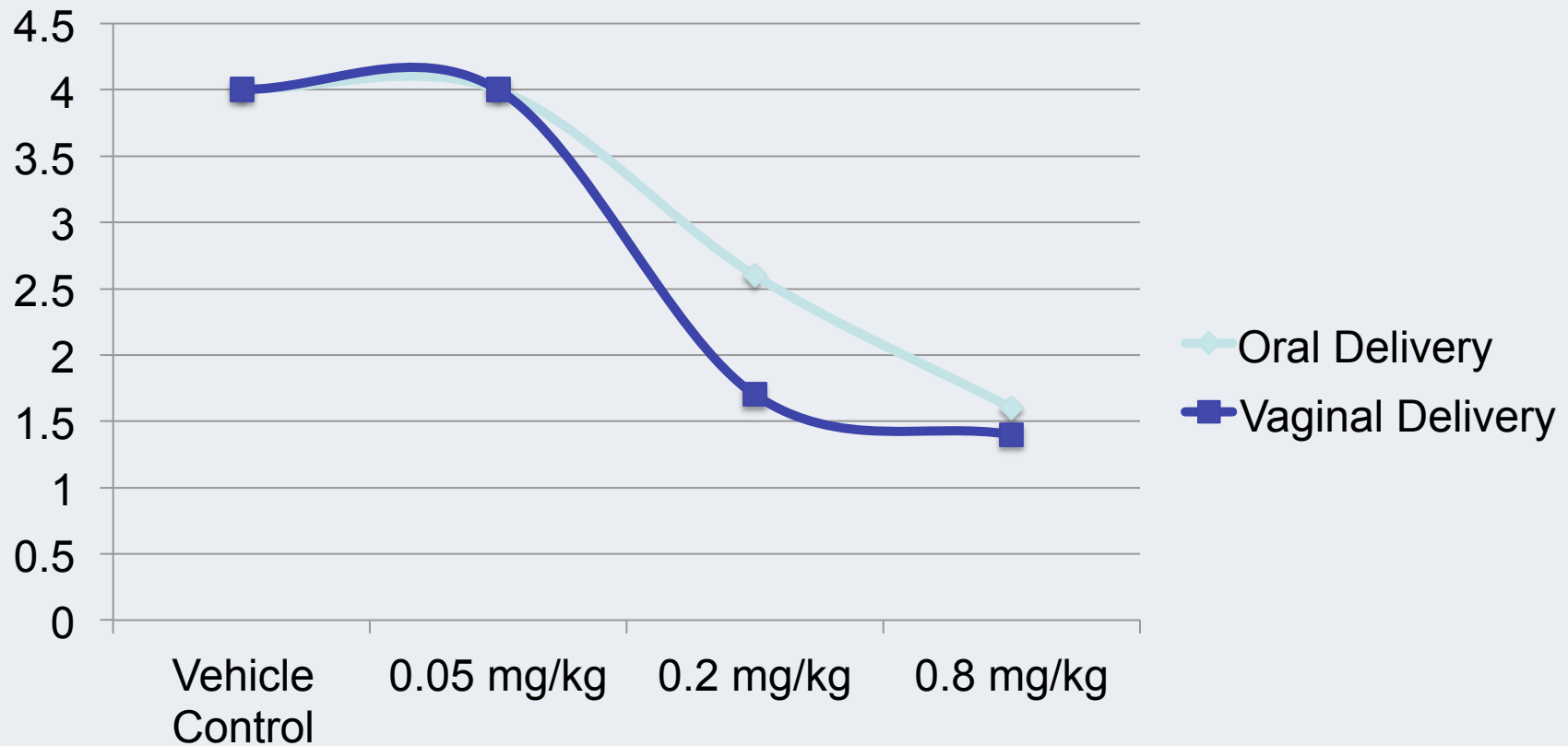


Repros Proellex Strategy “Going Forward”

- **Lift Clinical Hold**
 - Demonstrate significantly reduced exposure and risk at lower doses
 - Conduct short duration (70 days) low dose study to demonstrate effectiveness (cessation of menses)
- **Commence Alternate Route of Administration Studies for Current Lead Molecule**
 - Allow for higher local concentrations to take advantage of dose dependent impact on proliferation and apoptosis for fibroids, endometriosis
- **Commence Screen for Second Generation Drug with Reduced Oral Liver Toxicity**
 - Significant portfolio of modified but related molecules

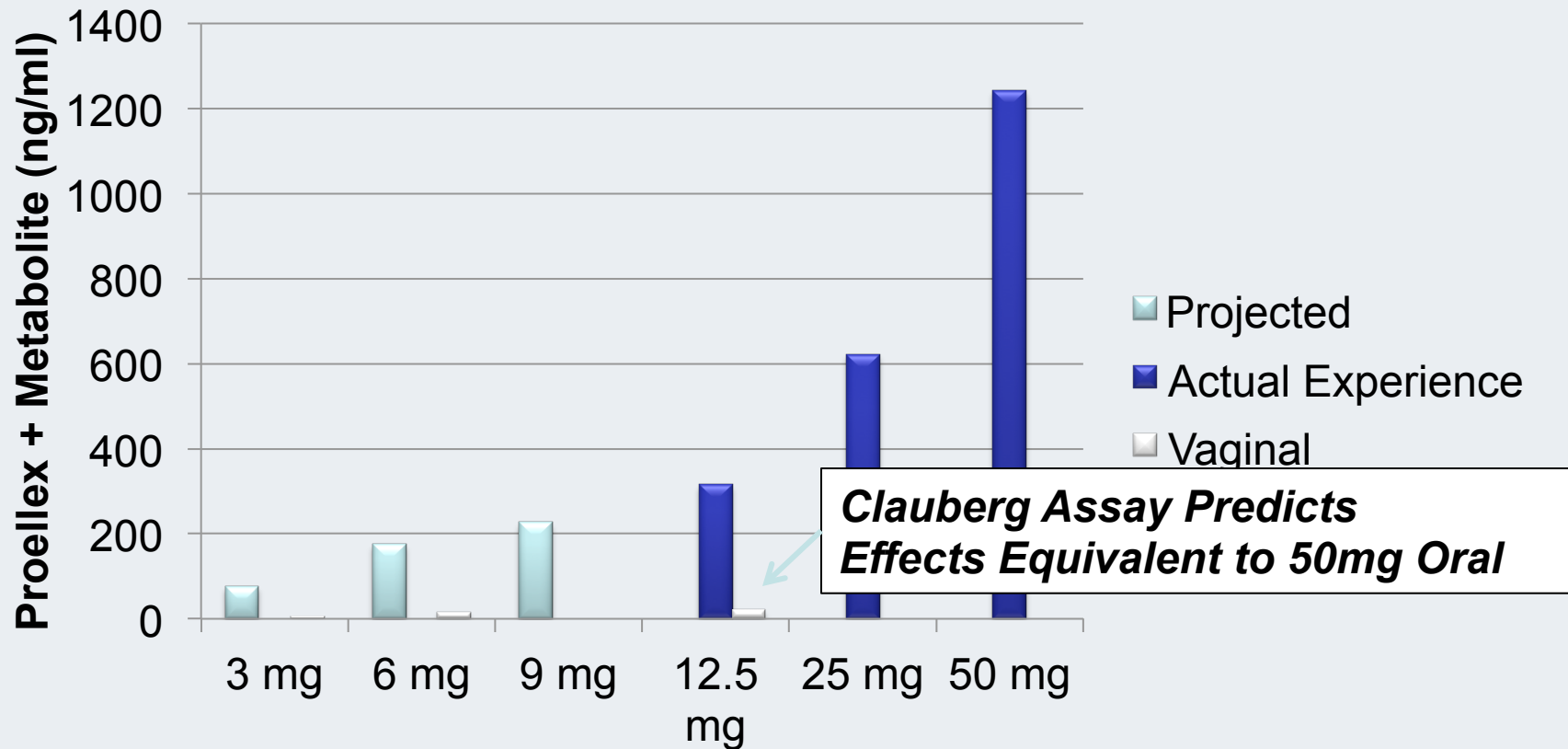
In-Vivo Assessment of Oral vs Vaginal Delivery Effects on the Rabbit Endometrium

McPhail Index



Projected C_{max} for Current Low Dose Study

Maximum Concentration in Serum



Second Generation Proellex

- Initial invitro data
 - Antiprogestational/antiglucocorticoid activity
 - Proellex 103/61
 - Analog A 177/11
 - Analog B 136/14
 - Solubility Ethanol/Water
 - Proellex 36.8mM/7.1 μ M
 - **Analog A *Freely soluble/140.6 μ M***
 - Analog B 26.3mM/3.1 μ M

Repros Financial Status

- Market Cap
 - ~\$25 million based on closing price on 12/31/10
- Shares Outstanding
 - ~8.9 million
- Cash on hand (unaudited year end 2010)
 - ~\$3 million
 - Last until late Q1 early Q2 2011
- Cash burn in '11 and '12 roughly \$8MM/yr
- \$8MM round gives runway into Q2-'12

Milestones Through 2011

- Q1-'11 Commence Phase IIb Androxal studies
- Q2-'11 Vaginal Proellex ready for new IND
- Q2-'11 Report interim T2DM Androxal data
- Q4-'11 Report 2nd generation Proellex preclinical findings
- Q4-'11 Complete low dose Proellex study (regular reports during year)
- Q4-'11 Report final results for Androxal T2DM study
- Q4-'11 Report results from Phase IIb Androxal study

Corporate Goals for Period

- **Recapitalize Company (estimated burn during period \$8 million)**
- **License Androxal**
- **Reinstitute licensing discussions for Proellex program**