

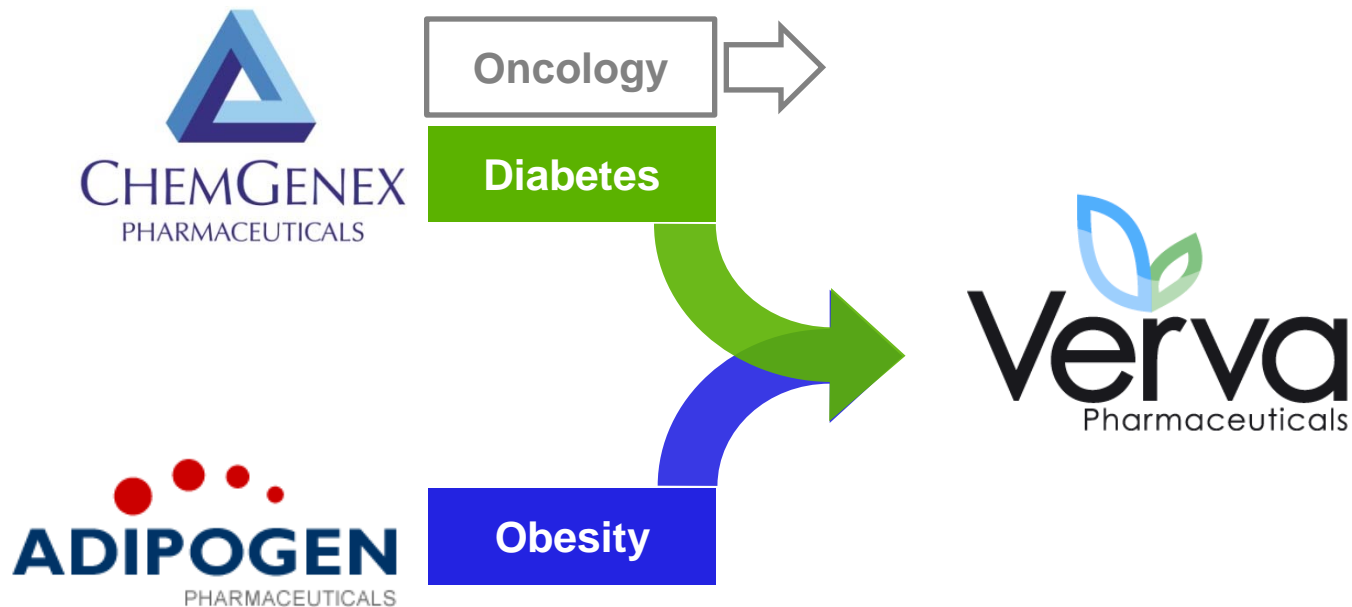


Novel Therapies for Metabolic Disease

Vince Wachter, CEO
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Verva Pharmaceuticals

- Clinical-stage pharmaceutical company formed Dec'07 to develop novel therapies for diabetes and obesity



Verva Leadership Team

■ Board of Directors

- **Ian Nisbet, PhD (Chair)**

- CEO Xenome Ltd.; ex-Millennium, CSL

- **Andrew Baker, PhD**

- GBS Venture Partners; ex-Genentech, Bayer, J&J

- **Michael Cowley, PhD**

- Director of the Monash University Obesity & Diabetes Institute; ex-CSO Orexigen® Therapeutics Inc.

- **John Kurek, PhD**

- Uniseed; ex-BioDiem, Amrad

- **Matthew Morgan, MBA**

- Queensland Investment Corporation

■ CEO

- **Vince Wachter, PhD**

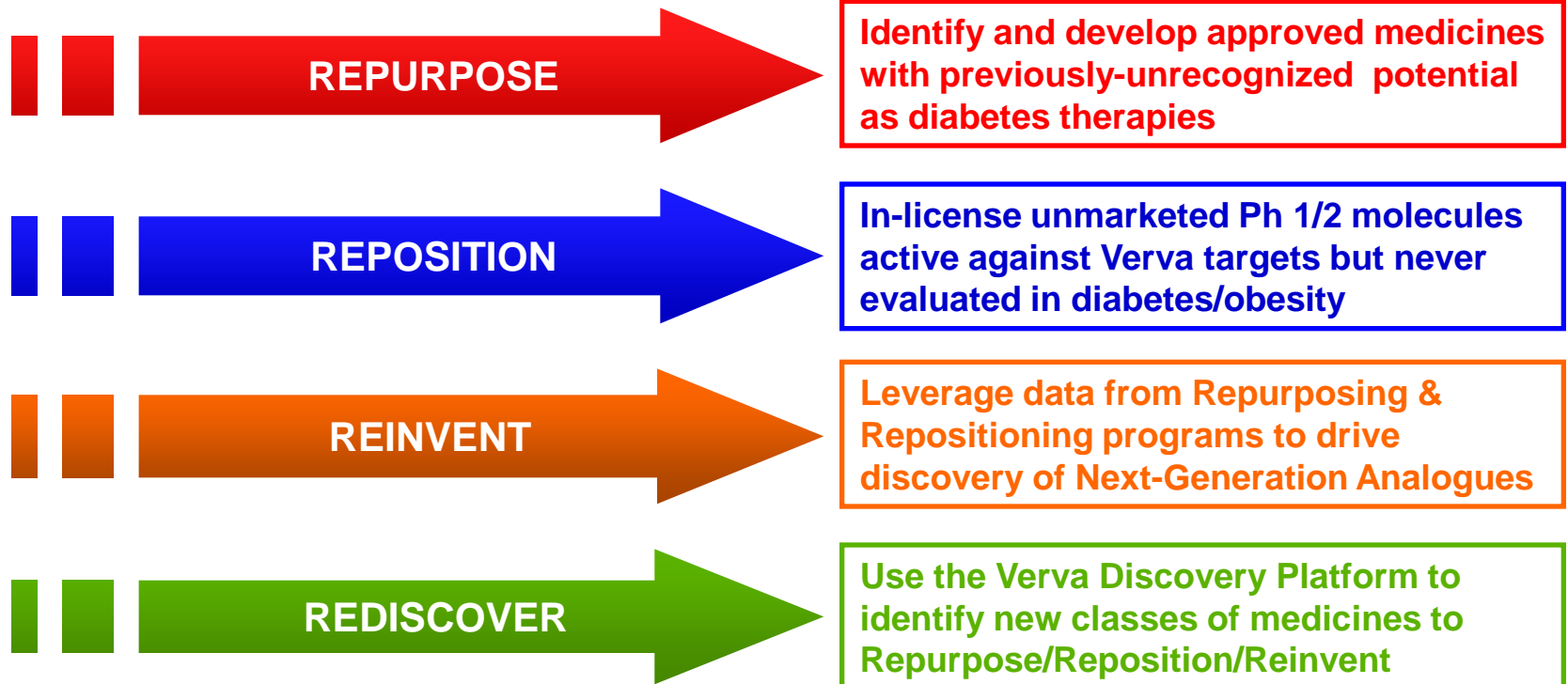
- 15 years US biotech; ex-Adipogen Pharmaceuticals (CEO), Eastman Chemical

Verva Expertise & Infrastructure



- Verva's founding laboratory
 - 10-year relationship
 - Ideal discovery partner
- Experienced scientific team
 - Decades of international metabolic diseases research
- Exceptional *in vitro* & *in vivo* capabilities
 - DIO mice/rats, *db/db* mice, Zucker rats, Israeli Sand Rats
- Verva Management & Board have extensive clinical trials experience

Multi-Tiered Value Generation Strategy



Verva Portfolio

PROGRAM	Discovery	Preclinical	Phase 1	Phase 2a	Phase 2b
VVP808 (diabetes)	Non-TZD Insulin Sensitizer *				
VVP100X (diabetes)	§				
GES Platform [■]					
FGFR (obesity)	ASOs				
IMPDH (obesity)	†				

- * Off-patent molecule with extensive clinical experience in an unrelated indication
- § Next-generation insulin sensitizers based on VVP808 structure and mode-of-action
- Gene Expression Signature technology applied to discovery of diabetes therapies
- † Preclinical proof of concept with existing commercial product



VVP808 – A New Insulin Sensitizer

Verva Diabetes Opportunity

- **Multi billion dollar worldwide diabetes therapy market**
 - **Expected to double in the next 7 years**
- **Current therapies limited by safety, cost and loss of efficacy**
 - **Developmental products primarily “me too” drugs directed towards existing targets and modes-of-action**
- **Significant market demand for novel insulin sensitizers**
 - **TZD/PPAR insulin sensitizers (Avandia, Actos) dominated the oral therapy market prior to identification of cardiovascular safety issues**

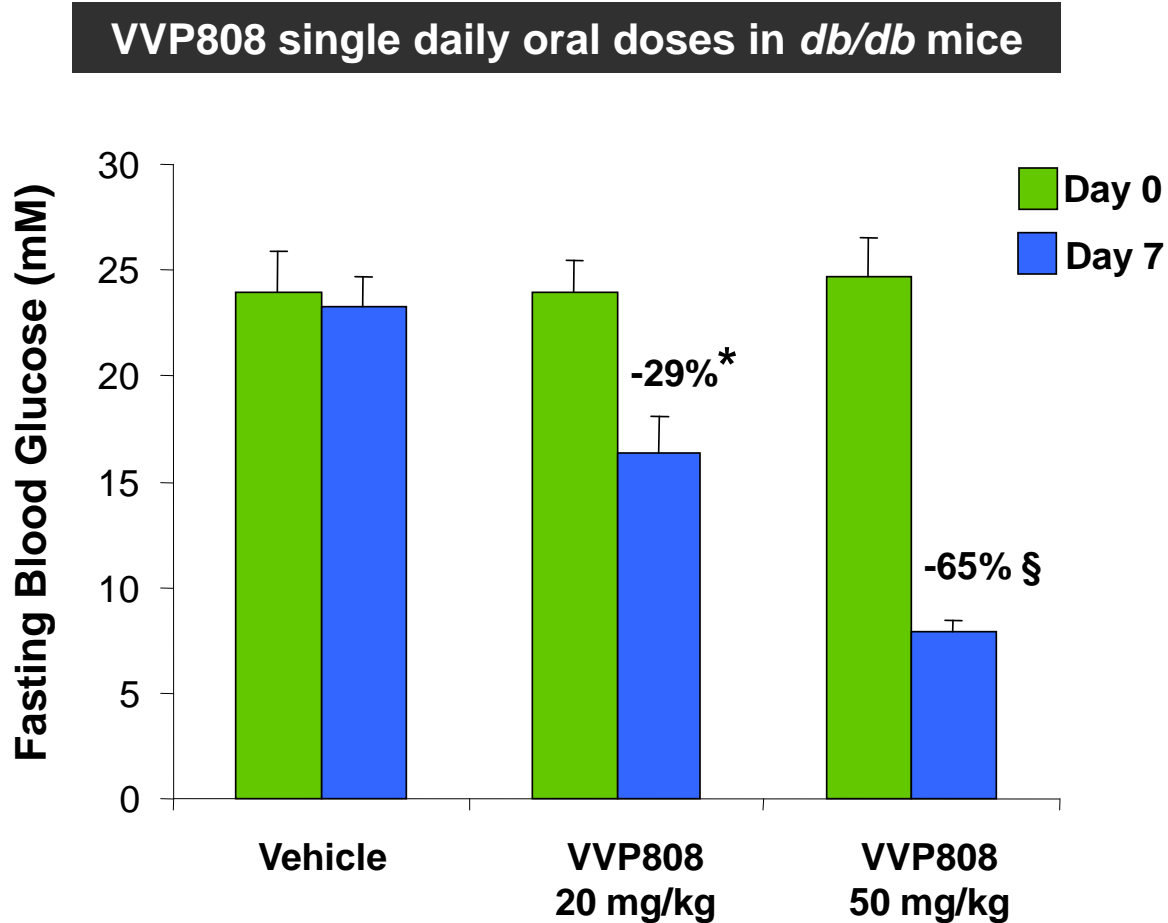
VVP808 is a new non-TZD/non-PPAR insulin sensitizer

VVP808 Clinical Repurposing

- **Off-patent enzyme inhibitor**
 - Identified using the Verva GES discovery platform
 - 40+ years of clinical use solely in North America in an unrelated indication
 - Established long-term safety profile
 - Limited current use; never evaluated as a diabetes therapy
 - No reported cardiovascular side-effects

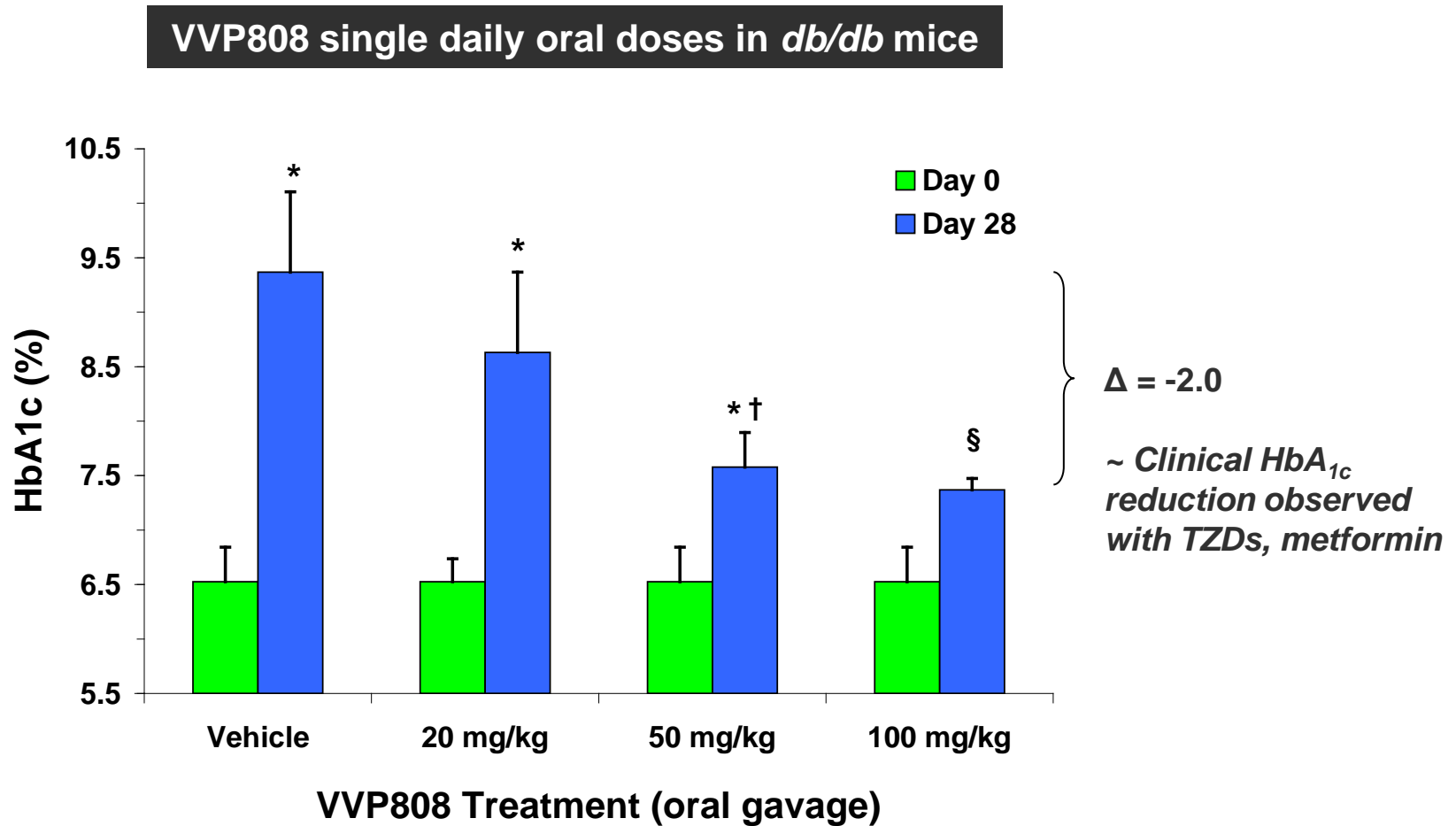
- **Diabetes activity is not due to the known enzyme inhibition**
 - Opportunity for dose-differentiation
 - Avoid effects associated with known enzyme inhibition

VVP808 Lowers Blood Glucose



Compared with Day 0: * $p=0.0008$, § $p=0.00004$

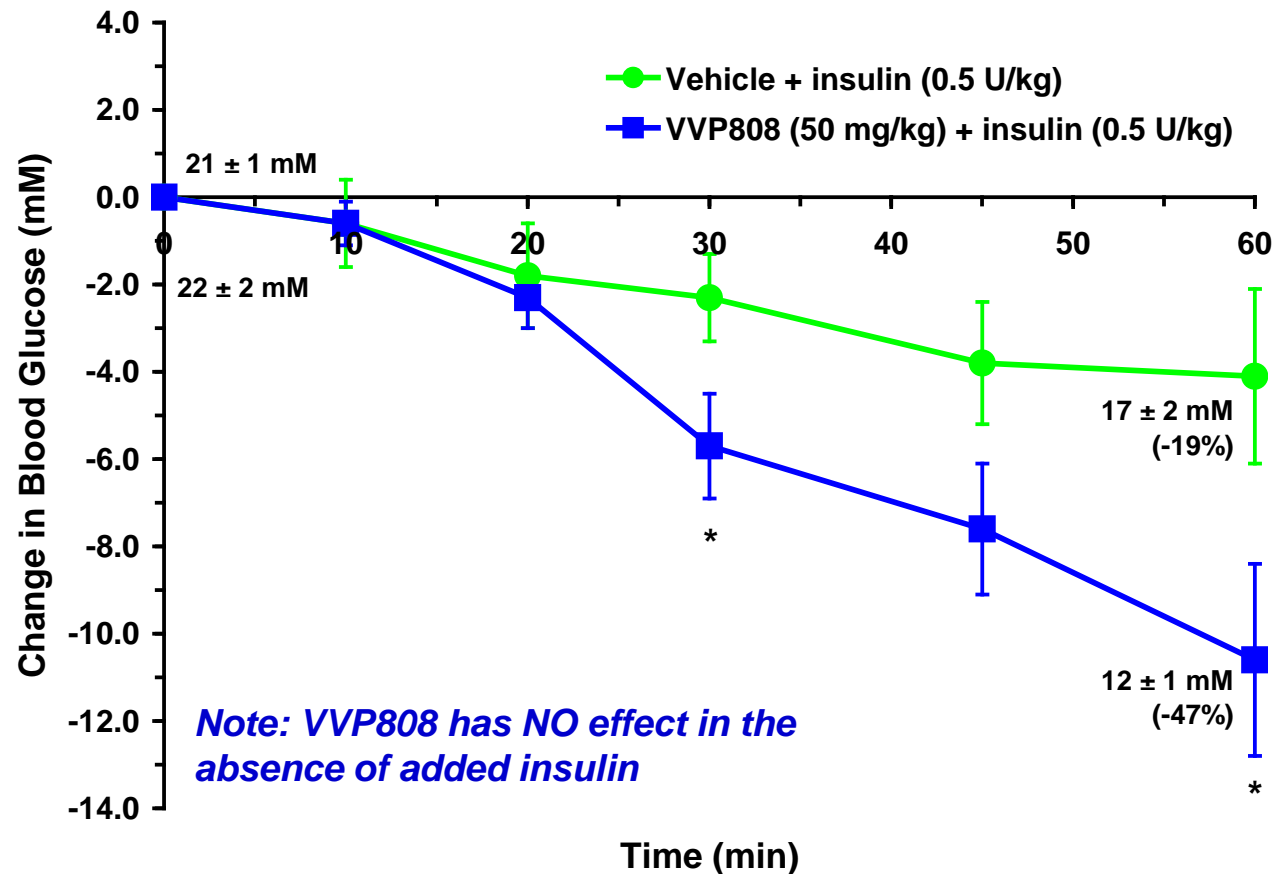
VVP808 Lowers HbA_{1c}



* $p \leq 0.04$ vs. day 0 † $p = 0.06$ vs. vehicle § $p = 0.04$ vs. vehicle

VVP808 - A Novel Insulin Sensitizer

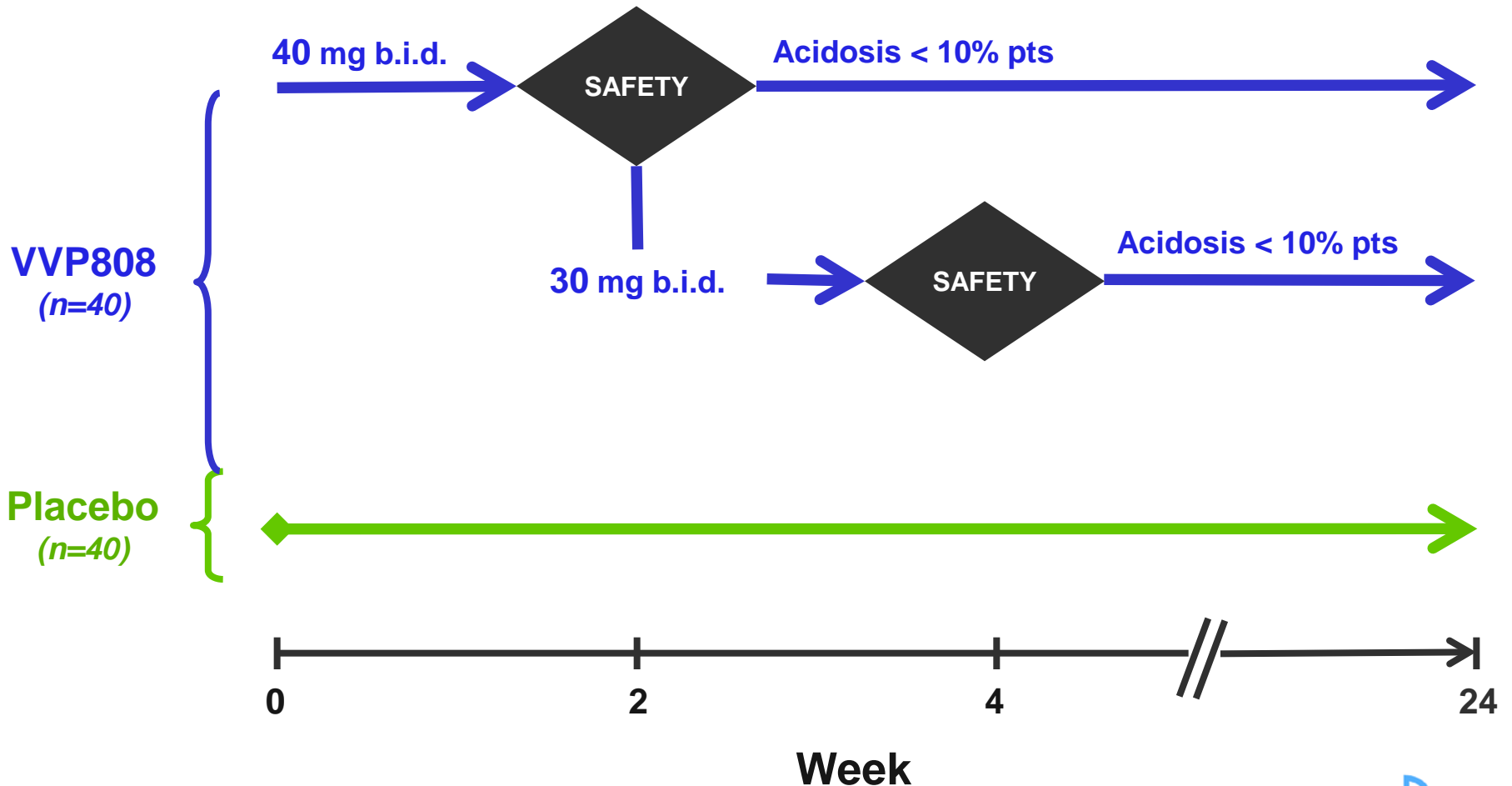
SD rats rendered diabetic (no insulin production) by STZ injection 60 mg/kg/day x 8 days) prior to 14 days VVP808



VVP808 Clinical Development

- **Phase 1b/2a clinical proof-of-concept study**
 - **Safety and efficacy of VVP808 in diabetes patients not taking other anti-diabetic medications**
 - **Ethics approval solicited under the Australian CTN system**
 - **Primary site Geelong Hospital, Victoria (PI Dr. Geoff Nicholson)**
 - **Second site Box Hill Hospital, Victoria (Dr. Richard Simpson)**
 - **Third site Heidelberg Repatriation Hospital, Victoria (Prof. Joseph Proietto)**
- **Key objectives**
 - **Safe administration to diabetes patients**
 - **Efficacy at lower doses than used in the approved indication**
 - **Reduction in HbA1c (0.5%), FPG, PPG**
 - **Weight loss, improved lipid profile**

VVP808-002 Clinical Trial



* Current approved doses are 50-100 mg b.i.d. or t.i.d.

VVP808 Product Development

- **Ideal VVP808 diabetes product employs a significantly lower dose than currently used**
 - IP protection
 - Avoid generic competition
 - Minimize CA inhibition and related side-effects
- **Ideal VVP808 diabetes product is a modified release dosage form**
 - Once-a-day dosing e.g. XR formulation
 - IP protection
 - Potential efficacy & safety improvements?
- **VVP808 + metformin combination product**
 - IP protection
 - Avoid generic competition
 - Potential synergy allows efficacy & safety improvements?

VVP808 Differentiators

Feature	VVP808 Advantage
New diabetes MOA	→ Non-TZD/PPAR insulin sensitizer Decreased HGP
Long history of clinical use	→ Favourable safety profile Improved with lower doses
Additional benefits possible	→ Weight loss Synergy with metformin
Only approved in N. America Limited current use	→ First-to-market opportunity ROW Low risk of off-label prescribing
Simple structure; low COGS	→ Competitive, 'reimbursement friendly' pricing at good margin
IP differentiation	→ Lower doses; combinations; modified-release forms

Verva Current Focus

- **Equity financing completed May, 2009**
 - **AUD 2M - Series A preference shares**
- **Generate clinical proof-of-concept with VVP808**
 - **Near-term product opportunity**
 - **First-to-market opportunity ex-US**
 - **Pharma demand for non-TZD/PPAR insulin sensitizers**
 - **Worldwide interest in VVP808 clinical data**
 - **Two international pharma have signed CDAs**
- **Define VVP808 mode-of-action**
 - **Pharma keenly interest in new diabetes targets**
 - **Increased value with clinical-validation**

Key Milestones & Newsflow

Event	Time
▪ Financing (AUD 2M)	✓
▪ FGFR program out-license to Isis Pharm.	✓
▪ VVP808 1b/2a clinical - start manufacture	✓
▪ VVP808 phase 1b/2a clinical – ethics approval	✓
▪ VVP808 phase 1b/2a clinical - initiate study	✓
▪ VVP808 mode-of-action & target confirmed	Q3/4'10
▪ VVP100X discovery partnership/collaboration	Q3/4'10
▪ VVP808 phase 1b/2a clinical – final data	Q1'11
▪ VVP808 partnership/license	Q1'11

Value Strategies

■ Partnerships

- Joint development, licensing or options on product programs
 - Potential for multiple regional partners or single WW partner
- Discovery collaborations around the GES platform
 - Funded discovery evaluating partner compound libraries

■ Strategic transaction

- M&A with company seeking pipeline expansion

■ Public Listing

- If market conditions and progress permit (ASX, NASDAQ)



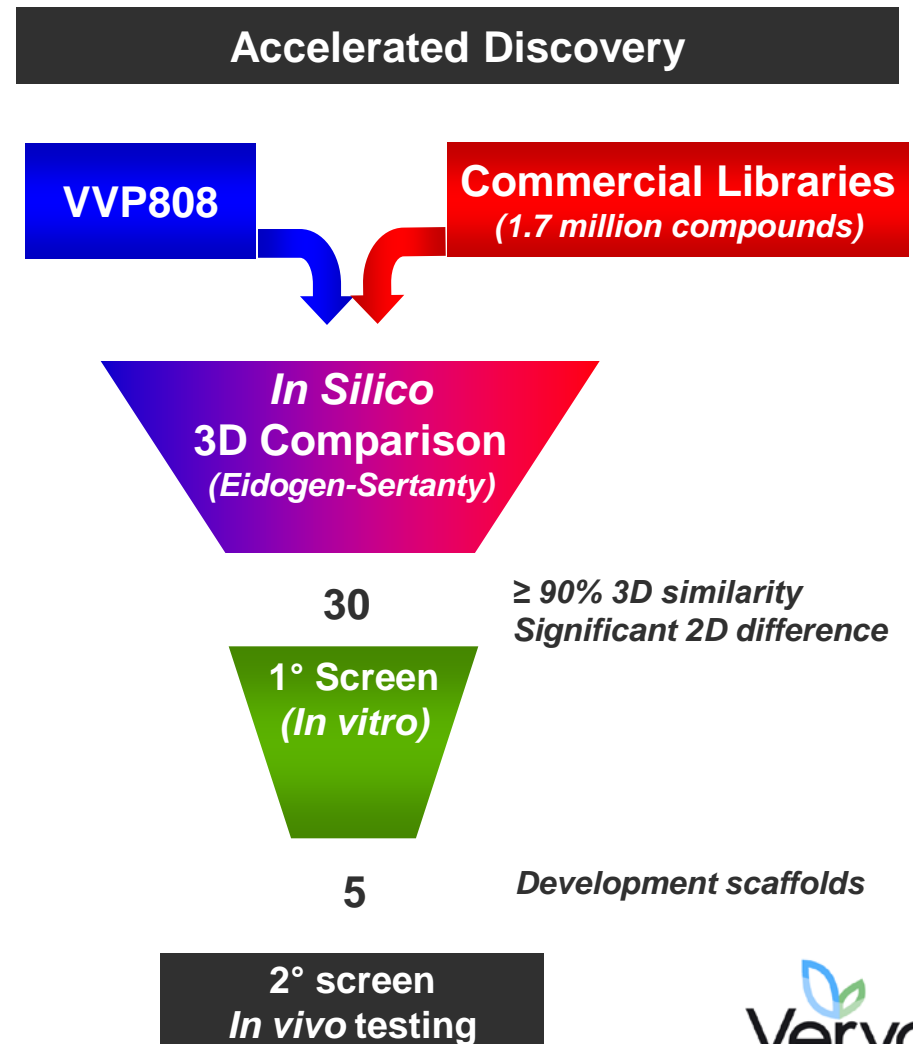
Partnering Opportunities

Diverse Asset Portfolio

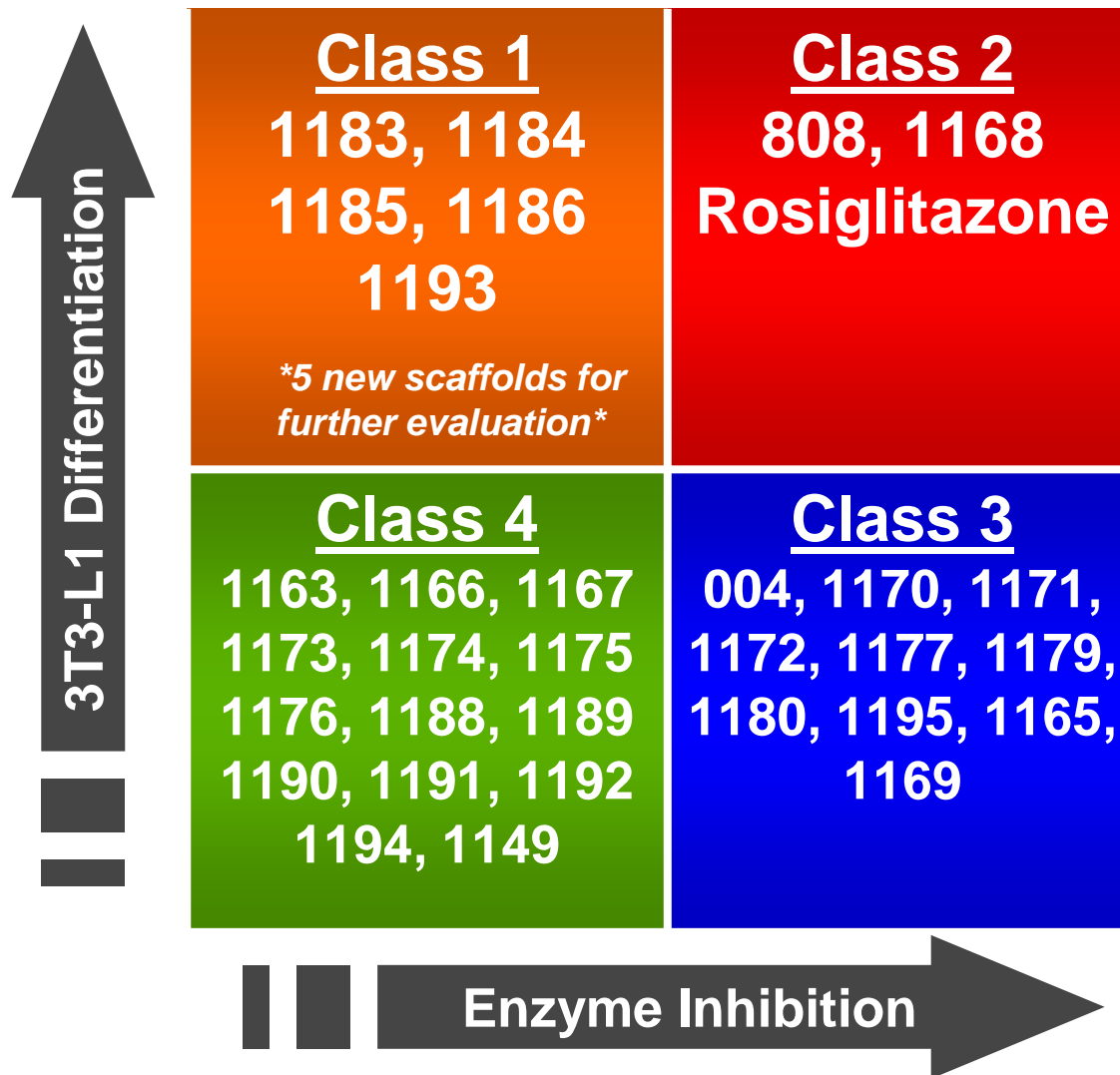
- **VVP100X**
 - **Optimized, proprietary next-generation diabetes therapies based on VVP808 structure and mode-of-action**
 - **5 new scaffolds identified**
- **GES diabetes discovery platform**
 - **Ideal screening tool to unlock value in partner libraries and products**
 - **Used to discover VVP808**
- **Two fat blocking technologies with preclinical proof-of-concept**
 - **Pharma interest**
 - **FGFR technology the subject of an out-licensing term sheet**

VVP100X: New Drugs From VVP808

- NCEs based on VVP808 structure & MOA
 - Optimize anti-diabetes effect
 - Engineer away from VVP808 enzyme inhibition
 - Improve efficacy & PK/PD
 - Improve safety profile
- Composition-of matter IP
- Longer-term value



Hit Stratification in Primary Screen



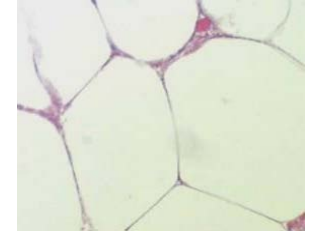
Diabetes Discovery Platform

- **Verva Gene Expression Signature (GES) Technology**
 - A 'fingerprint' of 7-12 genes from different pathways whose expression is modulated when diabetic cells are made healthy
 - Identifies drug effect on multiple disease-associated processes
 - Modulation of multiple processes delivers optimized diabetes therapy

- **GES is a powerful screening tool**
 - Target-, mechanism- and structure- independent
 - Unlock value in partner libraries; rescue 'failed' compounds
 - Knowledge of MOA not required to evaluate diabetes effect
 - Identify previously unrecognized potential for application in diabetes

Verva Gene Expression Signature

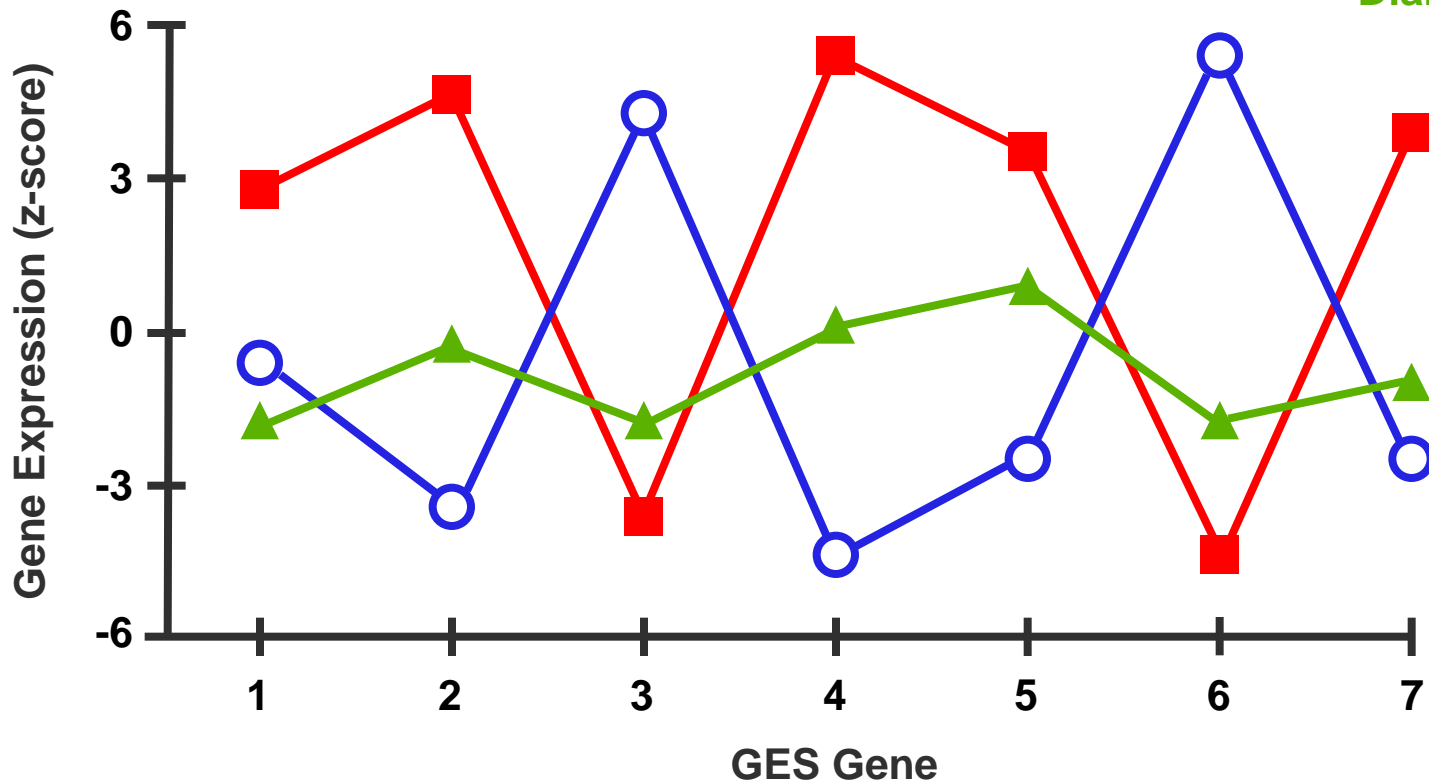
Adipocytes



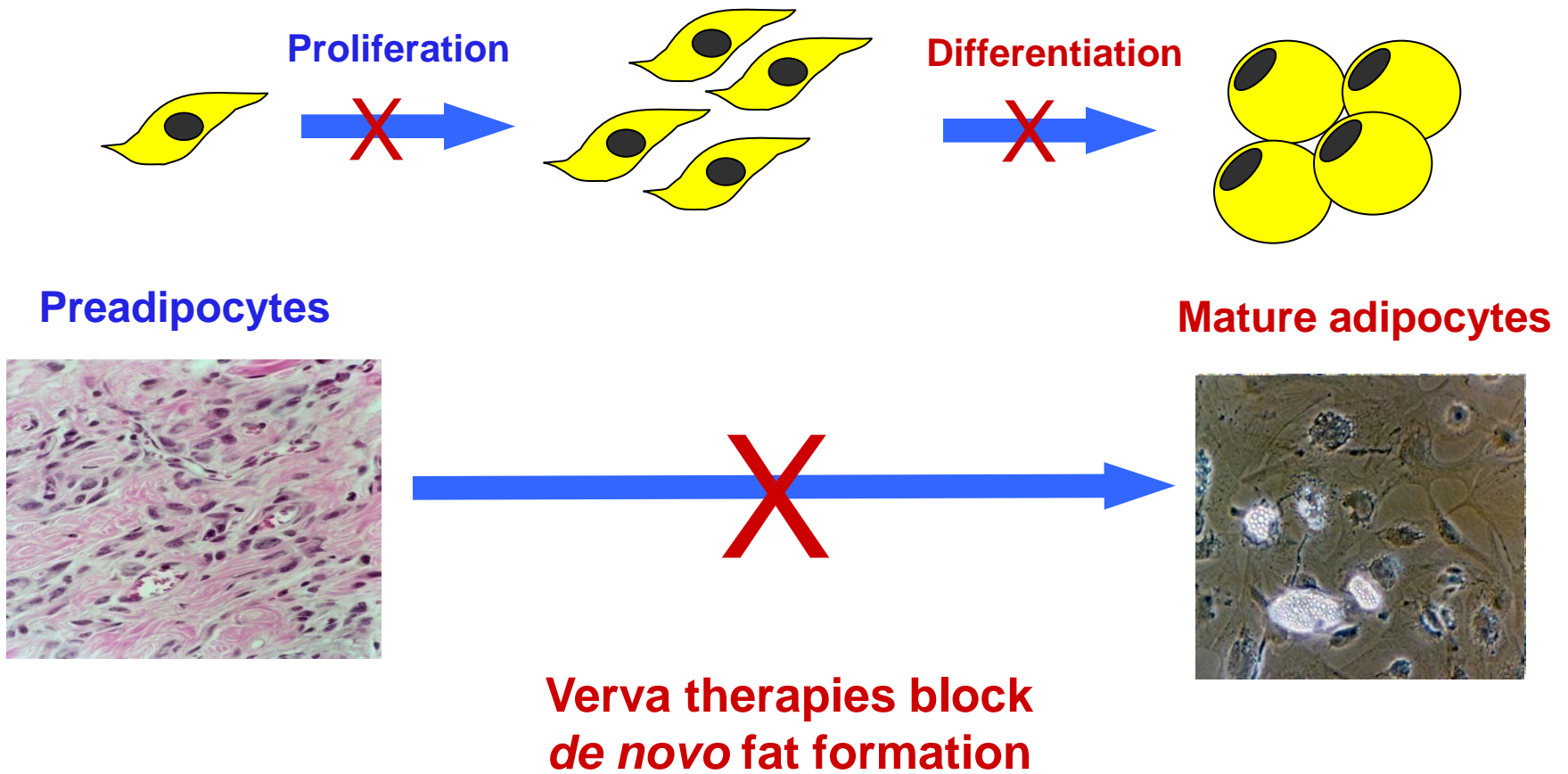
○ - Normal

■ Diabetic

▲ Treated Diabetic



Verva Fat Blockers



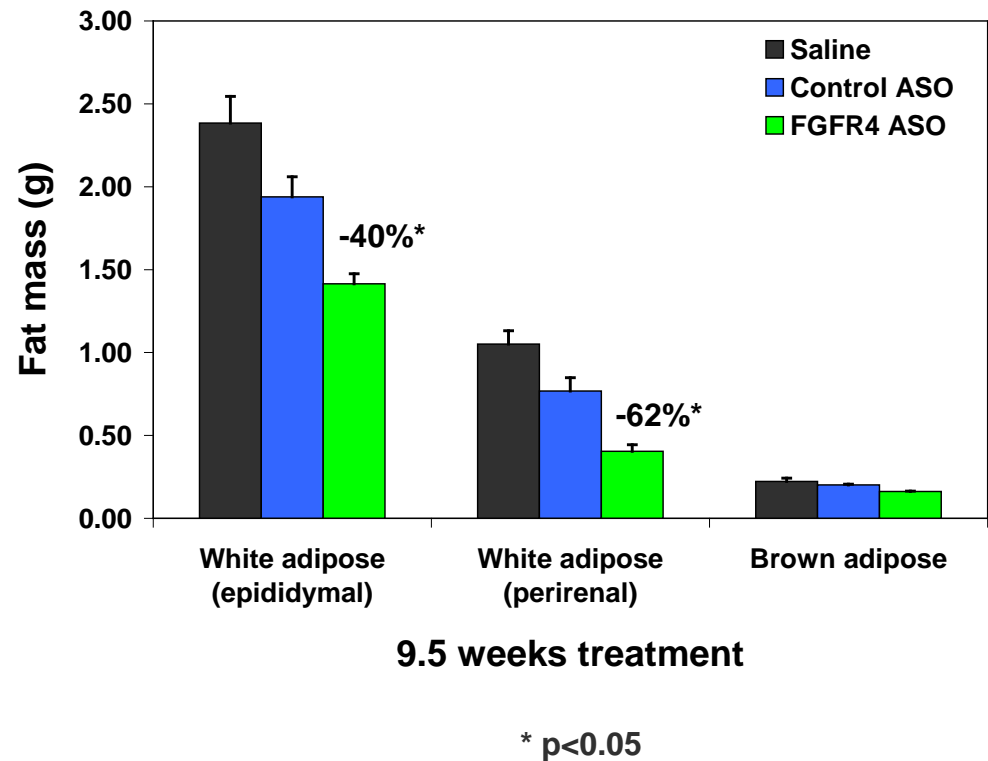
Benefits of Targeting Fat Formation

- **Novel mode of action at the target tissue**
 - Expect longer term efficacy, less resistance
 - Avoid CNS side-effects
- **Additional health benefits**
 - Fat removal can improve cardiovascular profile, reverse diabetes, ameliorate inflammation
- **Multiple clinical applications**
 - Weight/fat loss in obese subjects
 - Prevention of weight/fat gain (e.g. drug induced)
 - Prevention and treatment of diabetes

FGFR – Fat Blocking ASOs

- **FGF-1 is a potent promoter of adipogenesis**
 - Exerts its effects through multiple receptors (FGFRs)
- **License Verva IP to ISIS Pharmaceuticals to evaluate FGFR ASOs in obesity and diabetes**
 - **FGFR4 ASOs reduced body fat and weight in DIO mice**
 - No effect on food intake
 - Increased metabolic rate
 - Prevented fat gain in lean animals

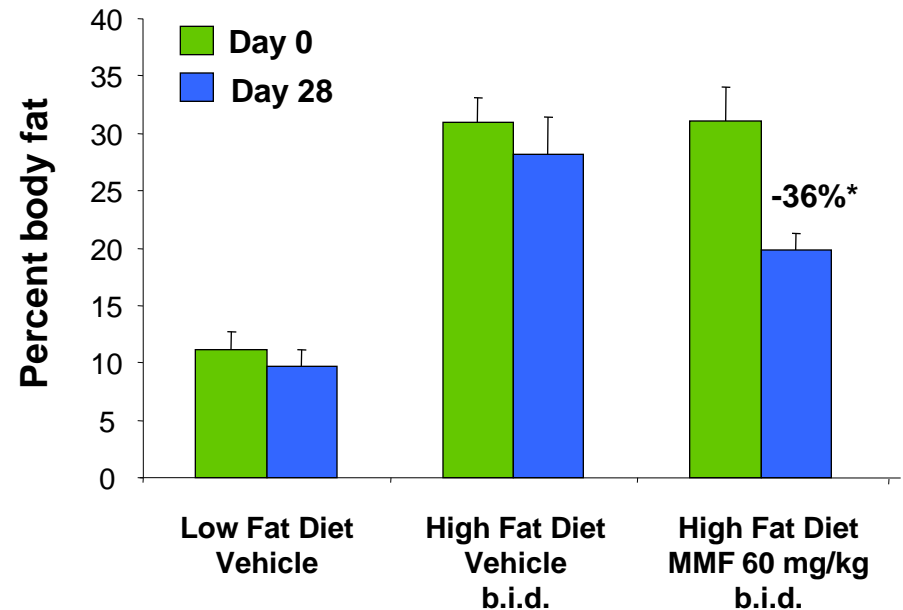
**FGFR4 ASO (25 mg/kg s.c. q3d)
reduced body fat in DIO mice**



IMPDH - Small-Molecule Fat Blockers

- **Inosine 5'-Monophosphate Dehydrogenase**
 - **Well-known enzyme target**
 - Immunosuppression, hepatitis, cancer
 - **Not previously evaluated in metabolic diseases**
- **IMPDH Inhibitors**
 - **Weight and fat loss in DIO mice**
 - No changes to food intake; no toxicity
 - **Different mechanism in obesity?**
 - Block adipocyte differentiation but not proliferation
 - Reverse is true for T-cells and cancer cells
- **Accelerate progress through in-licensing**
 - **Access products with phase 1/2 clinical data in unrelated indications**

CellCept® (MMF; oral) decreased body fat of DIO mice maintained on a high fat diet



* p<0.05