

## Overview

### **Business:\***

Verva Pharmaceuticals Ltd (“Verva”) is a virtually-operating, clinical-stage pharmaceutical company developing novel therapies to treat diabetes and obesity.

### **History:**

Verva was formed in Dec’07 when ChemGenex Pharmaceuticals Ltd. (CXS) divested its diabetes-focused subsidiary Autogen Research Ltd. which then acquired obesity company Adipogen Pharmaceuticals Pty Ltd. CXS shareholders received an *ex specie* distribution of Verva shares, which means Verva has over 4,000 shareholders. Verva anticipated an ASX compliance listing shortly after formation; however, the global economic downturn and a consistently poor IPO environment have precluded Verva from pursuing an ASX listing.

### **Financing:**

Verva is a public but unlisted entity and, since formation, has been financed entirely by private equity investments from cornerstone investors QBF Pty Ltd., GBS Venture Partners Ltd. (and affiliates) and Uniseed as described below:

Dec’07: AUD 2.75M (Convertible Note)

May’09: AUD 2.00M (Series A; Note converted)

Verva completed a fully-subscribed, voluntary buyback of 10% of the Company’s ordinary share capital in December 2009. These shares were purchased for AUD 0.01 each.

### **Directors:**

Ian Nisbet, PhD (Chair)  
Andrew Baker, PhD  
Michael Cowley, PhD  
John Kurek, PhD  
Katherine Nielsen, PhD

### **CEO:**

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### **Registered Office:**

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\* Annual reports, technical presentations and management biographies are available at [www.vervapharma.com](http://www.vervapharma.com)

Dear Verva Shareholder

As we enter the Holiday season, we are pleased to report that 2010 has seen solid progress with Verva’s diabetes discovery and development programs.

As announced at the AGM in May, in early 2010 we initiated a phase 2a clinical proof-of-concept study evaluating our insulin sensitizer VVP808 in type 2 diabetes. **The clinical study is now 50% enrolled and we anticipate that final clinical safety and efficacy data will be available in Q3, 2011.**

Pharmaceutical companies worldwide have elaborated a desire to discover new, safer insulin sensitizers to treat diabetes and there is significant interest in the outcomes of the VVP808 clinical trial.

Verva’s preclinical programs have also made strong advances:

- On-going studies are evaluating potential glucose-lowering synergy between VVP808 and the commonly-prescribed diabetes therapy metformin. If observed clinically, this synergy may deliver a differentiated combination product with clear safety and efficacy benefits.
- New structural analogues of VVP808 have been discovered that are more active and selective than VVP808 *in vitro* and we look forward to *in vivo* evaluation of these molecules in 2011.
- VVP808 mode-of-action studies have identified a number of VVP808-binding proteins that will be evaluated in 2011 as potential modulators of diabetes. A new insulin sensitizing target is expected to generate commercial interest from pharmaceutical companies, particularly if validated by success in the VVP808 clinical trial.

Verva is now pursuing further financing to ensure our continued progress and we look forward to positive news flow over the course of 2011 as we achieve our key corporate and technical milestones and establish Verva as a leading presence in the metabolic diseases marketplace.



Ian Nisbet, PhD (Board Chair)



Vince Wachter, PhD (CEO)

# Verva Portfolio and Pipeline

## VVP808: A New Treatment for Type 2 Diabetes

Verva's lead product candidate VVP808 is currently undergoing phase 2a clinical proof-of-concept testing as a treatment for type 2 diabetes. Preclinical studies have found that VVP808 acts as an **insulin sensitizer** which makes diabetic liver cells more responsive to insulin and reduces hepatic glucose production. VVP808 is not structurally or mechanistically related to existing insulin sensitizers Avandia® (GSK) and Actos® (Takeda), so it is not expected to have the detrimental side-effects observed for these products. Avandia® and Actos® were multi-billion dollar products before safety concerns limited their use. **The demonstrated value of insulin sensitizers means there is significant pharmaceutical company interest in the results of the VVP808 clinical program.**

The VVP808 clinical trial is a randomized study evaluating the safety and efficacy of VVP808 as a means of reducing blood glucose and lowering blood levels of HbA<sub>1c</sub> (a standard marker for diabetes) in 80 patients with type 2 diabetes. Half the patients will be treated with VVP808 and half will receive a placebo. Patients and treating physicians will not know which of these has been administered until the study is completed. The trial initially enrolled patients who were not taking any other diabetes medications; however, the protocol was amended in Q3, 2010 to include patients currently using metformin.

The clinical trial is currently active at Box Hill and Heidelberg Repatriation Hospitals in Melbourne and Geelong Hospital in Geelong. New sites in Adelaide and Brisbane were opened in December. Initial patient recruitment was slow, but momentum has built up during the year and the study is now 50% enrolled. **Final VVP808 clinical safety and efficacy data are anticipated in Q3, 2011**

*Persons who wish to consider participation in the clinical trial may contact Verva for a referral to the clinical study coordinator in their region.*

## A Novel Insulin Sensitizing Target

The active ingredient of VVP808 has previously been marketed in North America in an unrelated indication.

Remarkably, VVP808 appears to exert its anti-diabetic effect through a mechanism different to its known, approved mode-of-action. **Several VVP808 binding proteins have been identified and their diabetes relevance is currently being investigated.** Identification of the VVP808 diabetes target will facilitate discovery of new insulin sensitizers and represents a stand-alone value proposition.

## VVP808-Metformin Combination

Fixed-dose combinations with metformin have rapidly become standard-of-care in type 2 diabetes. Verva preclinical studies have demonstrated that VVP808 may act synergistically with metformin to lower blood glucose levels. **Studies planned for 2011 will further investigate VVP808-metformin synergy and potential key product differentiators** such as increased efficacy; lower doses; improved safety; and weight loss.

## VVP100X: Next Generation VVP808 Analogues

Verva, in collaboration with the Metabolic Research Unit of Deakin University, is utilizing mechanistic and structural knowledge derived from studies with VVP808 to develop proprietary, next-generation insulin sensitizers with improved efficacy, selectivity and safety relative to VVP808 and current therapies. **Initial studies have identified molecules with greater *in vitro* activity and selectivity than VVP808** and studies to validate the activity of these compounds *in vivo* are planned for 2011.

## Verva Fat Blockers (FGFR)

Verva's portfolio also includes technologies directed towards prevention and treatment of **obesity**. Verva has shown that blockade of FGF receptors (FGFRs) inhibits human fat cell formation *in vitro*. In 2009, aspects of the Verva FGFR intellectual property were licensed to California-based ISIS Pharmaceuticals, Inc. (NASDAQ: ISIS), who have identified antisense oligonucleotides (ASOs) that reduce body fat and body weight in obese mice and prevent weight and fat gain in lean mice placed on a high fat diet. Under the licence agreement, Verva collaborates with ISIS on patent prosecution and is eligible for future product development milestones and royalties.

PROGRAM	Discovery	Preclinical	Phase 1	Phase 2a
VVP808 (diabetes)	Non-TZD/PPAR Insulin Sensitizer			
VVP808+metformin				
VVP100X (diabetes)				
GES Platform				
FGFR (obesity)	ASOs			

## Verva Anticipated Milestones, 2011\*

Financing	Q1'11
VVP808 Target <i>In Vitro</i> Efficacy	Q2'11
VVP808-Metformin <i>In Vivo</i> Synergy	Q2'11
VVP808 Clinical Data	Q3'11
VVP100X <i>In Vivo</i> Efficacy	Q3'11
VVP808-Metformin <i>In Vivo</i> Safety	Q4'11
VVP808 Target <i>In Vivo</i> Relevance	Q4'11

\* Contingent on appropriate funding