Sydney-based Apollo Life Science has passed a major milestone on the diabetes treatment; the commercialization of an oral insulin formulation could free the growing global population of diabetics from their dependency on injections. The company has reported that preclinical trials had shown that its proprietary oral insulin delivery technology (Oradel) successfully lowered the blood glucose levels of diabetic animals by up to 80% for more than six hours with a single dose.

The Oradel technology entraps large protein molecules, such as insulin, within nanolattices (of around 200nm in size) to protect them in the stomach and it uses targeting agents to promote the absorption of the active molecules from the intestine. Oradel technology also enables controlled release of the active molecules, as each cell in the stomach wall transports the nanolattice at a different rate. Once the nanolattice is released into circulation, the structure collapses and the protein is released.

Apollo is now preparing for Phase 1b human trials of oral insulin in addition to completing a Phase 2 human trial that is currently in the recruitment phase for a related transdermal drug delivery platform for psoriasis treatment. The company is also in the process of commercializing a range of over-the-counter wellness products with a view to supplementing the revenue it is already receiving from sales of its lines of human-expressed recombinant proteins to research markets worldwide (via its subsidiary, Apollo Cytokine Research). The human Phase 1b study in volunteers with diabetes will be conducted in Australia through the International Diabetes Institute.

About Apollo Life Science
Apollo Life Sciences is an innovative biotechnology company that has made major breakthroughs in the areas of drug delivery and expression of proteins from human cells. Apollo’s combined technologies are expected to lead to more effective and lower cost therapeutics, compared to first generation protein-based drugs.

Apollo’s oral (Oradel™) and transdermal (TransD™) delivery platforms are unique in being able to deliver water and oil soluble molecules up to antibody size in a tablet or topical application. This will improve patient convenience and comfort compared to existing bio-drugs using proteins, which can only be delivered by needles.

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