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## Nuvilex “Breakthrough” In Perspective

The US biotech company Nuvilex made recent news when it obtained exclusive rights to use insulin-producing “Melligen” cells to develop a treatment and possible cure for type 1 diabetes. Here we apply a Practical Cure perspective to give some background on the technology.

#### **The Science: Teaching liver cells to make insulin**

Professor Ann Simpson and her colleagues at the University of Technology, Sydney, Australia, have spent the last two decades developing technology to convert liver cells into beta-cell-like insulin-producing cells, called Melligen cells.

Nuvilex plans to combine Simpson’s work on Melligen cells with their own “Cell-in-a-Box” encapsulation technology, which cocoons cells in tiny, semi-permeable cellulose-based beads. The goal would be to implant these fully encapsulated insulin-producing cells into type 1 diabetics to serve as a type of bio-artificial pancreas.

#### **Practical Cure Perspective: A long road ahead**

The approach is promising in that it will combine both a supply of insulin-producing cells and cell protection into one complete solution.

The sobering note is timing. Nuvilex has recently entered pre-clinical animal testing and there is no indication of when human trials might begin. However, based on common experience, if the pre-clinical trials are successful, 3-5 years is a reasonable estimate for the commencement of human testing. As a result, at this point the research has not progressed enough for us to label it as an emerging Practical Cure project. Should the time table change, we will update readers.