

Lizard lifeline for diabetics

A large poisonous lizard from Mexico has proved to be an unlikely lifeline for diabetics.

The two-foot-long pink and black Gila Monster has a chemical in its saliva similar to a human hormone that helps regulate blood sugar.

This month a new type 2 diabetes drug based on the lizard chemical was made available in the UK.

Exenatide is the first in a new class of medicines known as incretin mimetics. It works by stimulating the pancreas to produce more insulin in response to raised blood sugar, and also influences digestion and appetite.

The garish Gila Monster - *Heloderma suspectum* - is one of only two venomous lizards in the world.

Its potent poison, produced by glands in the lower jaw, is used to kill its prey - small mammals and birds. However, the pharmaceutical scientists were more interested in the creature's spit. A chemical in the Monster's saliva, exendin-4, was found to act in a similar way to the human hormone glucagon-like-peptide-1 (GLP-1).

In healthy humans, GLP-1 stimulates beta cells in the pancreas to produce insulin when blood sugar levels get too high. But in type 2 diabetics, the GLP-1 message system can break down. The signal to make more insulin is weak or missing, and serious illness can result.

Working together, scientists from the drug companies Eli Lilly and Amylin Pharmaceuticals developed an artificial version of exendin-4 that can be injected into patients. The product, exenatide, was launched in the UK last week under the brand name Byetta.

Wild populations of the Gila Monster and its cousin the Beaded Lizard - also poisonous - are declining rapidly due to habitat loss and illegal hunting for the pet trade. This has led conservationists to set up Project Heloderma in central and north America, where the reptiles live.

In recognition of the Gila Monster's gift to medicine, Eli Lilly is making a charitable contribution to the project over the next three years.