

## Cuttings from the media

### MEDIA LITE

#### Seeing sulphonylureas in a new light

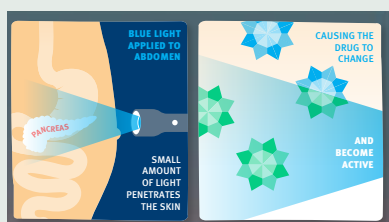
Researchers have developed a prototype sulphonylurea that could be activated by shining a blue light on the stomach. If proved successful in clinical trials, the drug could overcome many of the side effects, such as hypoglycaemia and cardiovascular disease, that are typically associated with sulphonylureas.

The compound, known as JB253, would theoretically remain inactive in the body under normal conditions. Application of blue light to the stomach, some of which would penetrate the skin, would change the structure of the agent and activate it, leading to insulin secretion.

David Hodson, at Imperial College London, said, "In principle, this type of therapy may allow better control over blood sugar levels because it can be switched on for a short time when required after a meal. It should also reduce complications by targeting drug activity to where it's needed in the pancreas."

While this therapy is a long way off from human use, such "photoswitchable" sulphonylureas may have a bright future.

*Evening Standard*  
14 October 2014



Application of blue light to JB253

#### Type 1 diabetes breakthrough using stem cell research raises hope for cure

Researchers at Harvard University have used human stem cells to generate insulin-secreting beta-cells *in vitro* that were effective in a mouse model of diabetes. The breakthrough, published in the journal *Cell*, is a major advance in the quest for an effective treatment for type 1 diabetes.

Professor Doug Melton, who led the research group, hopes to have human transplantation trials underway in a few years. He said that this is the first time anyone has produced mature beta-cells as suitable for use in patients. His group is also studying ways to "encapsulate" the cells in materials that can avoid rejection by the host's immune system.

*The Guardian*  
10 October 2014

#### Low-calorie sweeteners raise the risk of obesity and diabetes

In a study published in *Nature*, researchers from Israel have shown that the artificial sweeteners saccharin, sucralose and aspartame can impair glucose tolerance, raising the risk of obesity and diabetes, in a cohort of almost 400 people. Studies in mice showed that this effect may have been brought about by altering the gut microbiota.

While most of the findings concerned saccharin, which is rarely found in drinks, and findings in mice do not necessarily transfer to humans, commentators have called for urgent large-scale trials and have recommended that both sugary and sweetened drinks be avoided.

*Daily Mail*  
17 September 2014

#### Common diabetes medicine could help treat Alzheimer's sufferers

Two drugs used to treat diabetes, lixisenatide and liraglutide, have been found to protect against the degenerative effects of Alzheimer's disease in mice. The agents were more effective than any of the currently available drugs for Alzheimer's.

Simon Ridley, head of research at Alzheimer's Research UK, said that diabetes is already a known risk factor for Alzheimer's disease, and that there is already some evidence that antidiabetes drugs could protect against neurodegeneration. He added, "The next important step will be to see whether these benefits seen in mice can be reproduced in clinical trials in people."

*The Independent*  
4 November 2014

#### Children who skip breakfast "more likely to suffer diabetes"

A study of more than 4000 children aged 9–10 years has shown that those who skip breakfast are at greater risk of developing diabetes in later years.

Children who tended to miss the morning meal had higher fasting insulin levels, insulin resistance and blood glucose levels compared with those who ate breakfast every day. Angela Donin, who led the study, said, "This could be explained by your eating patterns for the rest of the day. If you have not eaten breakfast you are more likely to snack – and those snacks are more likely to be energy-heavy."

*Daily Mail*  
2 September 2014