Diabetes linked to ‘junk’ DNA previously thought to have no function

[A]mong the thousands of genes which code for vital proteins, hidden in plain sight are much vaster chunks of non-coding junk DNA, previously thought to have no function…[A]n international team led by scientists at Imperial has found that some of this junk DNA has an important regulatory function in the pancreas.
The findings…reveal that specific non-protein coding regions regulate key genes in beta cells – the insulin-producing cells of the pancreas which help to balance blood sugar in the body.

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One junk region in particular, called PLUTO (PDX1 Locus Upstream Transcript), was found next door to an important controlling gene (or transcription factor) called PDX1, which helps beta cells to mature and produce insulin.

…

“PDX1 is essential to countering the body’s growing resistance to insulin, so these genes are really important in terms of human diabetes – both inherited and acquired,” said Professor Jorge Ferrer, Head of Epigenetics and Disease at the Department of Medicine at Imperial.

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The findings add weight to the idea that some of these lesser known regions of the genome, previously labelled as ‘junk‘, are in fact functional and could even play a role in the development of the condition.

[The study can be found here.]

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: ‘Junk DNA’ could play an important role in diabetes