How gut microbes may trigger type 1 diabetes

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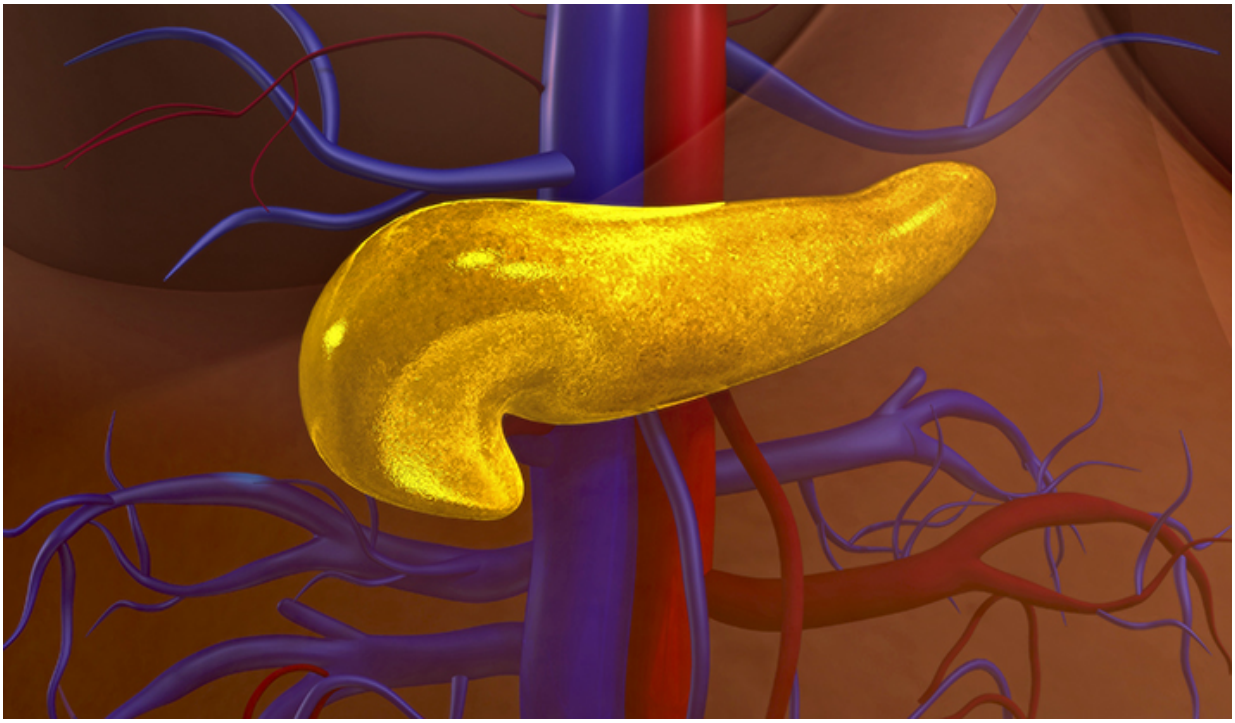

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Research on the tiny microbes that live in our gut has yielded clues to understanding a growing number of medical conditions. A new Yale-led study explores the link between gut microbes and type 1 diabetes.

The research team studied specific immune cells, CD8 T cells, in a

mouse model. They found that a protein in the gut bacteria had a similar molecular structure to a protein in pancreatic cells that produce insulin. The researchers referred to the similarity as "molecular mimicry" and found that this mimicry triggered the immune cells to attack the pancreatic cells, accelerating diabetes.

The finding may have significant implications for this chronic disease. "A change in the gut microbiome could be factor in the development of type 1 diabetes," said Li Wen, senior author and senior research scientist in endocrinology. Presence of similar bacteria that could act as a mimic in the individuals who are susceptible to type 1 diabetes may be an additional indicator of the disease risk, Wen noted.

More information: Ningwen Tai et al. Microbial antigen mimics activate diabetogenic CD8 T cells in NOD mice, *The Journal of Experimental Medicine* (2016). DOI: 10.1084/jem.20160526

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