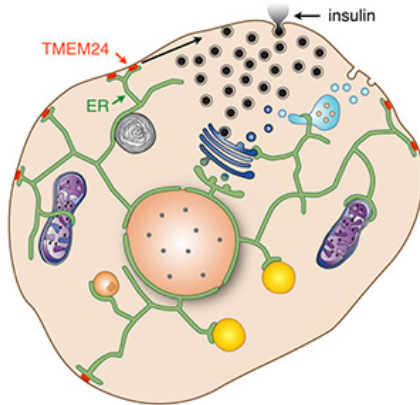


Molecular aid to insulin secretion identified

17 February 2017, by Bill Hathaway

transport by TMEM24 at ER–plasma membrane contacts regulates pulsatile insulin secretion, *Science* (2017). DOI: [10.1126/science.aah6171](https://doi.org/10.1126/science.aah6171)



Provided by Yale University

Credit: Yale University

Blood sugar triggers the secretion of insulin from cells in the pancreas, a process that is impaired in diabetes. A team of Yale researchers have identified a mechanism at the membranes of these pancreatic cells that controls this fundamental function.

The secretion of insulin depends in part upon a lipid transporter protein, TMEM24, which tethers an organelle called the [endoplasmic reticulum](#) (ER) to the outer cell membrane. The protein carries lipids created in the ER to the cell membrane to change its composition and allow the [secretion](#) of insulin to the exterior of the cell.

The research, published Feb. 17 in the journal *Science*, provides new insights into mechanisms regulating glucose-responsive insulin release.

This project was a collaboration between the laboratories of cell biology professors Pietro De Camilli and Karin Reinisch and was carried out by lead authors Joshua Lees, a postdoctoral associate, and Mirko Messa, an associate research scientist.

More information: Joshua A. Lees et al. Lipid

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