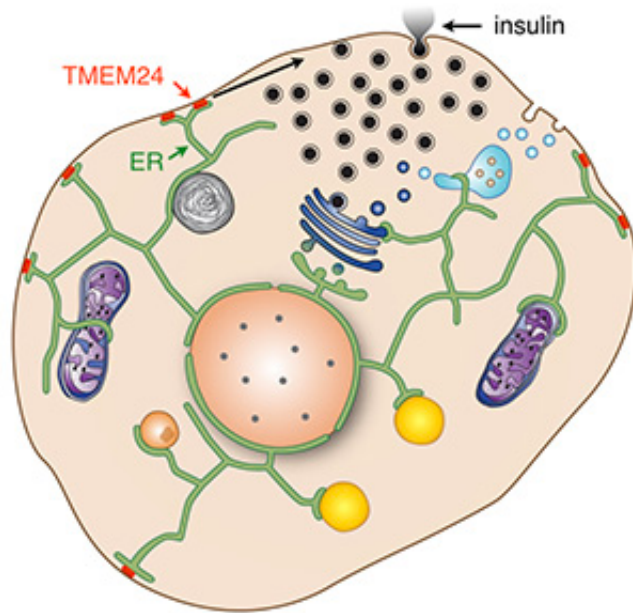


Molecular aid to insulin secretion identified

February 17 2017, by Bill Hathaway



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 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

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