A link between zinc transport and diabetes

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Individuals with a mutation in the gene encoding a zinc transporter, SLC30A8 have an elevated risk of developing type 2 diabetes. Insulin granules that are released from pancreatic β cells contain high levels of zinc; however, it is not clear why individuals with mutations in the SLC30A8 zinc transporter gene are predisposed to type 2 diabetes.

In this issue of the Journal of Clinical Investigation, Yoshio Fujitani and colleagues at Juntendo University investigated the role of zinc transport by SLC30A8 in β cells. They found that this zinc transporter is required for insulin clearance by the liver and secreted zinc signals to β cells to stop releasing insulin.

In the accompanying commentary, Alan Attie and colleagues at the University of Wisconsin-Madison discuss the dynamic regulatory role of zinc in insulin regulation.


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