A link between type 2 diabetes and mitochondrial function

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Type 2 diabetes is a chronic condition that is characterized by resistance to or insufficient production of insulin, a hormone that controls sugar movement into cells. In certain tissues, insulin resistance has been associated with dysfunction of mitochondria, which supply most of the cell's chemical energy.

In this issue of the *Journal of Clinical Investigation*, C. Ronald Kahn and colleagues at Harvard Medical School evaluated mitochondrial involvement in insulin resistance.

They found that heat shock protein 60 (HSP60), which is involved in mitochondrial protein import and macromolecule assembly, was required for appropriate mitochondrial function and insulin responses.

Additionally, they demonstrated that leptin, a hormone that regulates metabolism and appetite, was important for HSP60 regulation.

This study provides new insight into type 2 diabetes development and implicates leptin regulation of HSP60 as a potential therapeutic target.

More information: Leptin regulation of Hsp60 impacts hypothalamic insulin signaling, *J Clin Invest*. DOI: 10.1172/JCI67615

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