

# Metabolic discovery may help in fight against heart disease, diabetes

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Researchers at Cornell University have uncovered a key step in how the human body metabolizes sugar, which could lead to better treatment and prevention of heart disease, obesity and Type 2 diabetes.

Martha S. Field, assistant professor of nutritional sciences, has further characterized the human metabolic pathway by identifying two enzymes that convert the sugar erythrose into erythritol.

This reaction represents the final step in the conversion of glucose to erythritol in [human metabolism](#).

"Your normal diet contains fruits, vegetables and beans and you will inevitably ingest sugar alcohols," said Field, who is the senior author on the paper. Knowing how the body makes sugar alcohols opens up an array of new possibilities for treatment and prevention of heart disease and Type 2 diabetes.

Previous research had shown that elevated levels of erythritol in [blood plasma](#) are associated with future increased fat storage and weight gain, so erythritol serves as a biomarker for weight gain, possible heart disease and diabetes.

"That raises the question: Are elevated levels of erythritol in plasma a causal factor in [weight gain](#), and, if so, could this newly discovered metabolism be a path toward intervention in our fight to combat obesity?" she said.

The paper, "Unexpected Roles for ADH1 and SORD in Catalyzing the Final Step of Erythritol Biosynthesis," was published in the *Journal of Biological Chemistry*.

**More information:** Lisa Schlicker et al, Unexpected roles for ADH1 and SORD in catalyzing the final step of erythritol biosynthesis, *Journal of Biological Chemistry* (2019). [DOI: 10.1074/jbc.RA119.009049](https://doi.org/10.1074/jbc.RA119.009049)

Provided by Cornell University

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