

# Egg metabolites in blood related to lower risk of type 2 diabetes

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Consumption of one egg every day seems to associate with a blood metabolite profile that is related to a lower risk of type 2 diabetes, a new study conducted in the University of Eastern Finland shows. The

findings were published in *Molecular Nutrition and Food Research*.

Eggs remain one of the most controversial food items. High intake of eggs has traditionally been discouraged, mainly due to their high cholesterol content. However, eggs are also a rich source of many bioactive compounds that can have [beneficial effects](#) on health. This means that the health effects of consuming eggs are difficult to determine based solely on their cholesterol content.

The investigators have previously shown that eating roughly one egg per day was associated with a lower risk of developing type 2 [diabetes](#) among middle-aged men participating in the Kuopio Ischaemic Heart Disease Risk Factor Study in eastern Finland.

"The purpose of the current study was to explore potential compounds that could explain this association using non-targeted metabolomics, a technique that enables a broad profiling of chemicals in a sample," says early stage researcher and lead author of the study Stefania Noerman from the University of Eastern Finland.

The study found that the blood samples of men who ate more [eggs](#) included certain lipid molecules that positively correlated with the blood profile of men who remained free of type 2 diabetes. In addition, the researchers identified several biochemical compounds in [blood](#) that predicted a higher risk of developing type 2 diabetes, including the amino acid [tyrosine](#).

The study suggests some plausible mechanisms which could at least partly explain the inverse association between egg intake and the previously observed lower risk of developing type 2 diabetes.

"Although it is too early to draw any causal conclusions, we now have some hints about certain egg-related compounds that may have a role in

type 2 diabetes development. Further detailed investigations with both cell models and intervention studies in humans that use modern techniques, such as metabolomics, are needed to understand the mechanisms behind physiological effects of egg intake," Noerman concludes.

**More information:** Stefania Noerman et al. Metabolic Profiling of High Egg Consumption and the Associated Lower Risk of Type 2 Diabetes in Middle-Aged Finnish Men, *Molecular Nutrition & Food Research* (2018). [DOI: 10.1002/mnfr.201800605](https://doi.org/10.1002/mnfr.201800605)

Provided by University of Eastern Finland

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