

Genetically elevated triglyceride level associated with protection against type 2 diabetes

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Elevated plasma triglyceride level is considered a risk factor for type-2 diabetes, but new findings suggest that a genetically-elevated triglyceride level is associated with protection against type-2 diabetes. Yann Klimentidis, an Assistant Professor at the Mel and Enid Zuckerman College of Public Health at the University of Arizona, and colleagues found that triglyceride-increasing alleles are associated with decreased type-2 diabetes incidence. Their findings were published recently in *PLOS Genetics*.

Building on previous studies that hinted to the same association, Klimentidis and colleagues tested the relationship of triglyceride-associated genetic variants, collectively and individually, with type-2 diabetes incidence across three prospective cohort studies comprised of European- and African-American participants.

Their findings across studies, racial groups, and statistical models consistently demonstrate that triglyceride-increasing alleles are associated with decreased type-2 diabetes incidence. The studied genes therefore appear to both increase [triglyceride levels](#) and decrease type-2 diabetes risk. Although no single gene appeared to be driving this trend, several, including a variant near the APOA1 gene, stood out as potentially interesting to this finding.

Although more work is needed to fully understand the physiological

mechanisms that underlie these genetic associations and to further elucidate the causal relationship between triglycerides and type-2 diabetes, these findings are a promising start to our understanding of triglyceride-associated genes and their relationship with type-2 diabetes.

More information: Klimentidis YC, Chougule A, Arora A, Frazier-Wood AC, Hsu C-H (2015) Triglyceride-Increasing Alleles Associated with Protection against Type-2 Diabetes. *PLoS Genet* 11(5): e1005204. [DOI: 10.1371/journal.pgen.1005204](https://doi.org/10.1371/journal.pgen.1005204)

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