# Study suggests insulin receptor genetic variants may protect from type 2 diabetes

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Diabetes mellitus is one of the most prevalent chronic diseases in the United States and around the world and is associated with several comorbidities. While diet and genetics play a role in the onset of the

disease, its exact causes remain elusive.

In a recent study published in *Current Developments in Nutrition*, Associate Professor Ghada Soliman and Professor Mary Schooling used Mendelian randomization—a study design that avoids confounding by taking advantage of the random allocation of genetic material at conception—to investigate whether the risk of type 2 diabetes varies with genetically predicted insulin, insulin receptor, or insulin-like growth factor-1 receptor using genetic variants.

The results suggest that insulin receptor genetic variants may protect a person from developing type 2 diabetes. Insulin receptor in red blood cells regulates glycolysis, which may affect their functionality and integrity. Also, the insulin receptor may mediate its effect via the ABO gene variant rs507666. As such, the insulin receptor may be a target for intervention to reduce the risk of type two diabetes and the associated comorbidities.

"These findings help us to better understand the causes of type 2 diabetes and thus enables us to develop more effective treatment in the future," Dr. Soliman says.

**More information:** Ghada A Soliman et al, Insulin Receptor Genetic Variants Causal Association with Type 2 Diabetes: A Mendelian Randomization Study, *Current Developments in Nutrition* (2022). DOI: 10.1093/cdn/nzac044

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