

Gene variants link to insulin resistance based on diet

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(HealthDay)—Variants of insulin receptor substrate 1 (*IRS1*) are associated with insulin resistance and metabolic syndrome, but only under particular dietary conditions, according to a study published online April 17 in *Diabetes Care*.

Ju-Sheng Zheng, from Zhejiang University in Hangzhou, China, and colleagues examined two *IRS1* variants (rs7578326 and rs2943641) linked to type 2 diabetes and their association with [insulin resistance](#), related traits, and diet in 820 individuals of European ancestry and 844 individuals of Puerto Rican ancestry.

The researchers found a lower risk of insulin resistance, type 2 diabetes, and metabolic syndrome in rs7578326 G-allele carriers and rs2943641 T-allele carriers. In both groups, the risk of metabolic syndrome was lower in rs7578326 G-allele carriers, but only when dietary [monounsaturated fatty acids](#) were below the median intake of each group. In the group with [European ancestry](#), the risk of insulin resistance and metabolic syndrome were lower in rs7578326 G-allele carriers and rs2943641 T-allele carriers and their haplotype G-T carriers, but only when the

dietary saturated fatty acid-to-carbohydrate ratio was low.

"*IRS1* variants are associated with insulin resistance and related traits and are modulated by diet in two populations of different ancestries," Zheng and colleagues conclude.

More information: [Abstract](#)

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