

# Higher levels of a certain protein associated with lower risk of type 2 diabetes

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Persons with higher levels of adiponectin, a protein that is produced by fat cells and that has anti-inflammatory and insulin-sensitizing properties, have an associated lower risk of type 2 diabetes, according to an analysis of previous studies, reported in the July 8 issue of *JAMA*.

Some studies have suggested several mechanisms through which adiponectin may decrease the risk of type 2 diabetes, although the strength and consistency of the relation between plasma adiponectin and risk of type 2 diabetes has been unclear, according to background information in the article.

Shanshan Li, M.D., M.Sc., of the Harvard School of Public Health, Boston, and colleagues conducted a review and meta-analysis to assess the consistency of the association of adiponectin levels and risk of type 2 diabetes. The researchers identified thirteen studies with a total of 14,598 participants and 2,623 new cases of type 2 diabetes that met criteria for inclusion in the meta-analysis.

The authors found that higher adiponectin levels were associated with a lower risk of type 2 diabetes. This inverse association was consistently observed in whites, East Asians, Asian Indians, [African Americans](#) and [Native Americans](#). The results did not differ substantially by method of diabetes ascertainment, study size, follow-up duration, [body mass index](#) or proportions of men and women.

"Although these epidemiologic studies cannot establish causality, the

consistency of the association across diverse populations, the dose-response relationship, and the supportive findings in mechanistic studies indicate that adiponectin is a promising target for the reduction of risk of type 2 [diabetes](#)," the authors write.

The researchers add that recent studies have shown that adiponectin levels can be increased through pharmaceutical and lifestyle interventions. "In addition, adiponectin levels may be useful for identifying persons likely to benefit most from interventions to treat 'dysfunctional adipose tissue' and its metabolic complications. Future studies should also evaluate whether adiponectin is useful for prediction of [type 2 diabetes](#) in addition to established risk factors using statistical techniques appropriate for prognostic analyses."

More information: *JAMA*. 2009;302[2]:179-188.

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