

# FGF21, dietary intake interaction impacts adiposity

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(HealthDay)—Fibroblast growth factor 21 (*FGF21*) genotypes may

interact with dietary macronutrient intake to affect central adiposity and body fat composition, according to a study published online Aug. 31 in *Diabetes Care*.

Yoriko Heianza, from Tulane University in New Orleans, and colleagues genotyped *FGF21* rs838147 in 715 overweight or [obese individuals](#) who were assigned to one of four diets with varied macronutrient contents.

The researchers observed a significant interaction between *FGF21* genotype and carbohydrate/fat intake on two-year changes in [waist circumference](#) (WC) ( $P = 0.049$ ), as well as percentage of fat mass and trunk fat ( $P = 0.001$  and  $0.003$ , respectively). Carrying the carbohydrate intake-decreasing C allele of rs838147 was marginally associated with less reduction in WC in response to the low-carbohydrate/high-fat diet ( $P = 0.08$ ), and was significantly associated with less reduction of total fat mass and trunk fat ( $P = 0.01$  and  $0.02$ , respectively). Among the high-carbohydrate/low-fat diet group, opposite genetic associations with these outcomes were observed; carrying the C allele correlated with a greater reduction in WC, total body [fat mass](#), and trunk fat.

"A low-calorie, high-carbohydrate/low-fat [diet](#) was beneficial for overweight or obese individuals carrying the carbohydrate intake-decreasing allele of the *FGF21* variant to improve body composition and abdominal obesity," the authors write.

**More information:** [Full Text \(subscription or payment may be required\)](#)

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