

How calorie-restricted diets fight obesity and extend life span

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Fruits and vegetables are a key part of calorie-restricted diets, which may increase longevity. Credit: Wikimedia Commons, Eric Hunt

Scientists searching for the secrets of how calorie-restricted diets increase longevity are reporting discovery of proteins in the fat cells of human volunteers that change as pounds drop off. The proteins could become markers for monitoring or boosting the effectiveness of calorie-restricted diets — the only scientifically proven way of extending life span in animals. Their study appears online in *ACS' Journal of Proteome Research*.

Edwin Mariman and colleagues note that scientists have long known that sharply restricting intake of calories while maintaining good [nutrition](#) makes animals live longer and stay healthier. Recent studies suggest that

people may gain similar benefits. But scientists know little about how these diets work in humans, particularly their effects on cells that store fat.

The new study focused on proteins in abdominal subcutaneous fat cells from a group of overweight people before and after they went on a five-week-long calorie-restricted [diet](#). The volunteers each lost an average of 21 pounds. Scientists identified changes in the levels of 6 proteins as the volunteers shed pounds, including proteins that tell the body to store fat. These proteins could serve as important markers for improving or tracking the effectiveness of therapies involving calorie-restricted diets, they say.

More information: "The physiologic effects of caloric restriction are reflected in the in vivo adipocyte-enriched proteome of overweight/obese subjects", *Journal of Proteome Research*, [pubs.acs.org/stoken/presspac/p ... ll/10.1021/pr900606m](https://pubs.acs.org/stoken/presspac/p...ll/10.1021/pr900606m)

Source: American Chemical Society ([news](#) : [web](#))

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