

Proteins could relate to increased longevity in women

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Scientists in Spain and Italy have identified a group of proteins in laboratory rats that could help explain two enduring medical mysteries — why women live longer than men and why calorie restriction stands as the only proven method of extending longevity. Their study, which could help scientists understand the biochemical underpinnings of aging, is scheduled for the July 3 issue of ACS' monthly *Journal of Proteome Research*.

In the study, Adamo Valle and colleagues point out that women, on average, live years longer than men. Previous studies also have shown that diets extremely low in calories consistently increase maximum life spans in a wide range of animals. Scientists have speculated that the explanation may involve hormones, stress, cardiovascular protection and other factors.

Using lab rats as stand-ins for humans, the researchers found that the livers of both female rats and calorie-restricted rats produced different levels of 27 proteins than male rats or those on a normal diet.

The findings suggest that a previously unrecognized set of cellular pathways may be involved in the longevity boost from being female and eating a sparse diet, the study says, suggesting that these insights could lead to new ways of boosting human longevity.

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