

High Leucine Intake Prevents Fat Accumulation And Improves Blood Lipids

Contributed by Anssi Manninen
Friday, 12 October 2007

Leucine is a real superstar of amino acids. It not only boosts muscle anabolism, but it also prevents body fat accumulation

Leucine is a real superstar of amino acids. It not only boosts muscle anabolism, but it also prevents body fat accumulation. In a recent study at Columbia University, the investigators doubled the intake of leucine (via leucine-enriched drinking water) in mice with free excess to either a standard rodent chow or a high-fat diet. While the higher leucine intake didn't produce major benefits in chow-fed mice, it resulted in up to 32 percent reduction of weight gain and a whopping 25 percent decrease in body-fat mass in high-fat diet-fed mice. These results indicate that leucine is not a fat burner per se; rather, it prevents body fat accumulation during overeating (a high-fat diet almost always leads to significant overeating in mice.). The results of this study also demonstrated that the reduction of extra lardness resulted from increased metabolic rate, while food intake wasn't decreased. But that wasn't all. Leucine supplementation also improved blood lipids and insulin sensitivity. Interestingly enough, the reductions in total cholesterol and "bad cholesterol" (LDL) were largely independent of leucine-induced changes in body-fat mass, suggesting that high leucine intake per se

improves cholesterol levels.

Reference:

Zhang Y et al. Increasing dietary leucine intake reduces diet-induced obesity and improves glucose and cholesterol metabolism in mice via multi-mechanisms. *Diabetes*, 2007 Jun;56(6):1647-54. Epub, 2007 Mar 14.