

## Post-Exercise Carb Ingestion And Muscle Anabolism

Contributed by Anssi Manninen  
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Post-exercise carb-protein recovery mixtures are popular among gym rats. There is some evidence to suggest that consumption of both amino acids and carbs results in greater effects on post-exercise muscle protein anabolism than amino acid ingestion alone, suggesting an interactive effect between insulin, amino acid availability and resistance exercise. However, a recent study, published in the American Journal of Physiology: Endocrinology and Metabolism, seems to refute this notion. Dr Rene Koopman and co-workers investigated the impact of co-ingestion of various amounts of carbs combined to an ample amount of protein intake on post-exercise muscle protein anabolism. After 60 minutes of resistance exercise, their study subjects consumed protein hydrolysate only drinks, low-carb protein hydrolysate drinks or high-carb protein hydrolysate drinks. Subjects received a beverage volume of 2.5 millilitres per kilogram of bodyweight every 30 minutes. Although blood insulin levels were significantly greater in the high-carb protein hydrolysate group compared to the other groups, there were hardly any differences in the post-exercise muscle anabolism rates. Thus, the authors concluded that "co-ingestion of carbohydrate does not further augment muscle protein synthesis rates during recovery from resistance-type exercise under conditions where ample protein is ingested."

### Reference:

Koopman R et al. Co-ingestion of carbohydrate with protein does not further augment post-exercise muscle protein synthesis. Am J Physiol Endocrinol Metab, 2007 Jul 3; [Epub ahead of print]