



ISOWHEY[®] SPORTS

— OPTIMAL
— PERFORMANCE —
NUTRITION

➤ **HOW CAN PEPTOPRO[®]
IMPROVE PERFORMANCE
AND STRENGTH?**

IMPROVING ENDURANCE, PERFORMANCE AND STRENGTH DOESN'T ALWAYS HAVE TO COME FROM PACKING MORE INTENSIVE TRAINING INTO YOUR SCHEDULE.

Consuming the right type of protein to repair, protect and enhance those working muscles equally contributes to gains in athletic performance. So whether you are training at an elite or recreational level, it's important to understand what type of protein has been scientifically proven to directly contribute to longer endurance, improved performance and quicker muscle repair – all valid goals for anyone who takes their fitness seriously.

It is fair to say that different protein sources have different benefits so your choice of protein depends on your health goals. Whey protein has the ability to be quickly digested and improve immune function, whilst soy protein is well known for its cholesterol lowering effects. In its natural form, casein protein has traditionally been regarded as a protein that is slower to digest and therefore slower-acting, making it most beneficial for preventing muscle breakdown during exercise.

PeptoPro® is a predigested milk protein derived from casein, where the protein fragments have been broken down into smaller particles using enzymes and water in a process called “enzymatic hydrolysis”. In this form, casein no longer has the disadvantage of being slow acting. By shortening the protein chains into smaller molecules known as di- and tri-peptides and free amino acids, this hydrolysed protein is easier and faster to digest than intact protein. It's also more rapidly absorbed into the bloodstream to deliver protein directly to the muscles.¹

Unlike whey, PeptoPro® has the benefits of being free from lactose and fat, and also instantly soluble in cold water. So, you get all the benefits of a high quality, easily digestible protein source without the uncomfortable bloating and “full” feeling which is associated with many other protein sources.



EASIER DIGESTION AND ABSORPTION = FASTER DELIVERY

When we exercise to our full capacity, blood flow to the digestive organs is lowered which then dramatically reduces digestive function.²

Many protein supplements contain intact protein with larger molecules and these can become stuck in the digestive system, compromising performance. However, when the larger protein molecules have been broken down into smaller peptides and amino acids, as with PeptoPro®, the digestive system doesn't need to work as hard during exercise. Rapid digestion means rapid absorption and that means more efficient delivery of the amino acids to the muscles.^{3,4}



IMPROVES PHYSICAL PERFORMANCE AND ENDURANCE

During intense exercise, muscles suffer damage! In the second hour of exercise, the body grabs 5-15% of its energy from protein in the form of amino acids. Without rapid absorption of amino acids during this window, the body breaks down muscle to retrieve amino acids and, consequently, performance and endurance/stamina can suffer.^{3,5}

In human trials, consuming PeptoPro® in combination with a carbohydrate source during endurance and resistance exercise, enhanced both performance and stamina. How? By promoting protein synthesis and preventing the body from breaking down muscle.^{4,6}

3

FASTER MUSCLE REPAIR AND RECOVERY

The ability of the muscles to begin repairing can be greatly enhanced by the amount of specific muscle-repair nutrients available immediately following exercise. PeptoPro® supplies the amino acids rapidly and directly into the muscles, unlike other protein forms that have not been hydrolysed. This means it can immediately kick-start the muscle recovery phase and reduce the level of any delayed onset muscle soreness.^{5,7}

PeptoPro® also increases blood levels of insulin after exercise. The insulin helps transport the glucose into the cells, effectively replenishing the muscle with glucose (known as glycogen stores) which is key to more efficient recovery.^{8,9}

References

1. Koopman R, Crombach N, Gijsen AP, et al. Ingestion of a protein hydrolysate is accompanied by an accelerated *in vivo* digestion and absorption rate when compared with its intact protein. *Am J Clin Nutr* 2009;90(1):106-115.
2. Kenney WL, Wilmore J, Costill D. *Physiology of sport and exercise with web study guide*. 5th edition. Human Kinetics, 2004.
3. Koopman R, Pannermans DL, Jeukendrup AE, et al. Combined ingestion of protein and carbohydrate improves protein balance during ultra-endurance exercise. *Am J Physiol Endocrinol Metab* 2004;287:E712-20.
4. Beelen M, Koopman R, Gijsen AP, et al. Protein coingestion stimulates muscle protein synthesis during resistance-type exercise. *Am J Physiol Endocrinol Metab* 2008; 295(1):E70-E77.
5. Wilborn CD, Taylor LW, Outlaw J, et al. The effects of pre- and post-exercise whey vs. casein protein consumption on body

4

BOOSTS LEAN MUSCLE MASS

Casein has an enviable amino acid profile for muscle building, strength and recovery after resistance exercise.⁹ Rich in the branched chain amino acids, casein, and therefore PeptoPro®, reduces post-workout muscle breakdown to maintain lean muscle mass and improve body composition.¹⁰

Delivering the right fuel with shorter protein chains and smaller molecules in the form of PeptoPro® provides greater efficiency and results in better performance, longer endurance and protection from muscle damage.

- composition and performance measures in collegiate female athletes. *J Sports Sci Med* 2013;12(1):74-79.
6. Saunders MJ, Moore RW, Kies AK, et al. Carbohydrate and protein hydrolysate coingestions improvement of late-exercise time-trial performance. *Int J Sport Nutr Exerc Metab* 2009;19(2):136-149.
7. van Loon L. Application of protein or protein hydrolysates to improve postexercise recovery. *Int J Sport Nutr Exerc Metab* 2007;17 Suppl:S104-S117.
8. Claessens M, Saris WH, van Baak MA. Glucagon and insulin responses after ingestion of different amounts of intact and hydrolysed proteins. *Br J Nutr* 2008;100(1):61-69.
9. Rosenbloom, C. Protein for athletes: quantity, quality, and timing. *Nutrition Today* September/October 2009;44(5):204-210.
10. Tipton KD, Elliot TA, Cree MG, et al. Ingestion of casein and whey proteins result in muscle anabolism after resistance exercise. *Med Sci Sports Exerc* 2004;36(12):2073-2081.



ISOWHEY[®] SPORTS

ISOWHEYSports.COM.AU

Visit our website for dosage protocols & expert sports
nutrition advice or find us on Facebook.