

Maximize the performance benefits of your protein supplement

Ideal for body builders, runners, or anyone with an active lifestyle¹, ProHydrolase represents a breakthrough in protein nutrition for those using protein supplements or meal replacements to help build or maintain healthy muscle mass and accelerate muscle recovery. (Figure 1)

Whey protein is one of the richest sources of all nine essential amino acids that the body is unable to produce on its own². However, whey protein must first be processed into a usable form, which includes essential amino acids and beneficial peptides (i.e., Di and Tri-peptides)³.

To be effective, whey protein must be broken down into a smaller particle size within approximately 90 minutes of consumption⁴. This transit time represents the time from which the whey powder passes from the stomach through the small intestine where digestion/absorption primarily occurs; from there it will be assembled into muscle protein (a bio-usable form).⁴ To visualize this process, think of a large table being moved into a room through a door that is too small. The table must first be broken down to pass through the doorway before it can be reassembled and used.

Undigested whey protein will simply be excreted from the body, resulting in wasted amino acids. (Figure 2)

Percentage of Whey Hydrolyzed to Muscle-Building Form

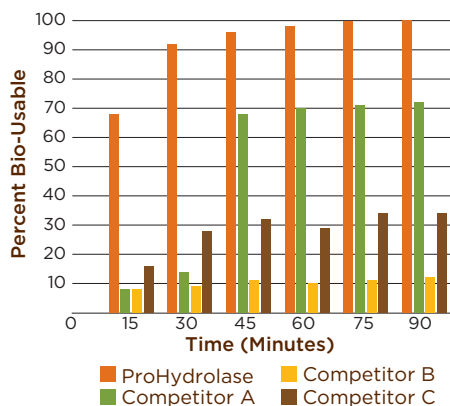


Figure 1

Amino Acids Lost After 90 Minutes in the Body

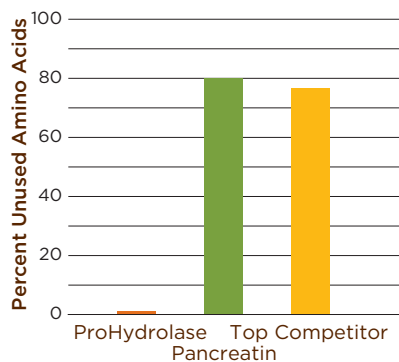


Figure 2

A Bio-Sufficient Supplement

ProHydrolase is a bio-sufficient supplement designed to build muscle mass and accelerate muscle recovery when used as an ingredient in protein supplements or meal replacements.

- Digests protein into bio-usable form, taking full advantage of the availability of essential amino acids for building muscle and improving muscle recovery
- Greatly reduces discomfort typically caused when protein is not broken down into the smallest composition
- Maximizes the performance benefit of protein supplements, assisting the body in absorbing more protein rather than excreting it
- Effective at digesting various forms of protein including whey, soy, egg, casein, hemp and pea



Decreased Stomach Discomfort - An Added Benefit

When whey protein is not broken down into the smallest composition, large peptides are created that can cause discomfort such as bloating, nausea and cramping. These symptoms should not be confused with lactose intolerance. Lactose is not present in whey isolates; therefore the underlining cause of the discomfort is peptide sensitivity. ProHydrolase breaks down large peptides reducing the potential for discomfort that often comes from consuming whey isolates. (Figures 3 & 4)

**Breakdown of Whey Isolate
Using Pancreatin Enzymes
Alone and with ProHydrolase**

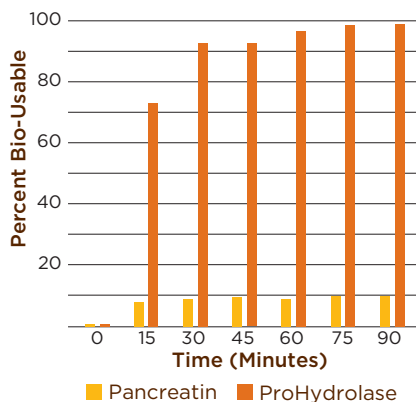


Figure 3

**Percentage of Discomfort
Causing Peptides**

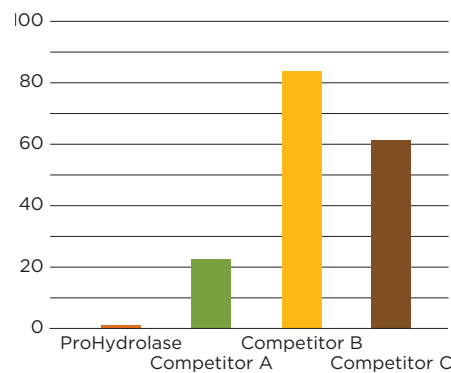


Figure 4

The body may not have the tools needed to disassemble whey protein, making a supplement necessary to ensure it gets the amino acids needed. ProHydrolase on its own is bio-sufficient, meaning the supplement alone includes all the tools required to break down proteins into bio-usable form, regardless of endogenous enzyme output. ProHydrolase maximizes the availability of essential amino acids that the body needs after calisthenic activity.

References

1. Burke, D.G. et al. The effect of whey protein supplementation with and without creatine monohydrate combined with resistance training on lean tissue mass and muscle strength. *Int J Sport Nutr.* 2001, 11, 349-364.
2. Borsheim, E., K. D. Tipton, S. E. Wolf, and R. R. Wolfe. Essential amino acids and muscle protein recovery from resistance exercise. *Am.J.Physiol Endocrinol.Metab* 283: E648-E657, 2002.
3. Tarnopolsky MA, Atkinson SA, Mac-Dougall JD, Chesley A, Phillips S, Schwarcz HP. Evaluation of protein requirements for trained strength athletes. *J Appl Physiol.* 1992 Nov;73(5):1986-95.
4. Kim SK: Small intestine transit time in the normal small bowel study. *Am J Roentgenol* 1968, 104: 522-4.

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease. If you are currently taking medications, or have other health-related conditions, consult a physician before adding supplements to your diet.



*From concept to commercialization,
we add value at every step.®*



800.697.8179
www.DeerlandEnzymes.com