



Sports nutrition

Fish collagen peptides as a new key ingredient

**Non-doping
ingredient**

- > **PREPARATION**
- > **FUEL**
- > **RECOVERY**



WELL-BEING



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The sport nutrition market will grow from US\$28 billion in 2015 to more than \$50 billion in 2022 (P&S Market Research). This market for sports and fitness nutrition is no longer a niche market dedicated to professional athletes. Today, it includes recreational athletes, consumers who are aware of the impact of nutrition on their physical performance and appearance.

In parallel to the increasing popularity of this market, proteins continue to be a must for sports nutrition products. Ongoing innovative developments in sport nutrition include proteins in their formulations. Moreover, proteins are reported to improve the training and allow recovery after exercise with protein requirements based on a daily intake of 1,4g protein/kg body weight for active adults, (Campbell et al., 2007).

› Collagen peptides (Naticol®) : high content of Arginine, easy digestibility and absorption

Collagen peptides (Naticol®) are rich in glycine, proline, hydroxyproline and arginine which may improve athletic performance (Hembree et al., 1969). Collagen peptides are an easily digestible protein source. They are highly absorbed (Iwai et al., 2005).

Nota: fish collagen peptides may also present a higher ratio of essential amino acids compared to some mammalian sources.

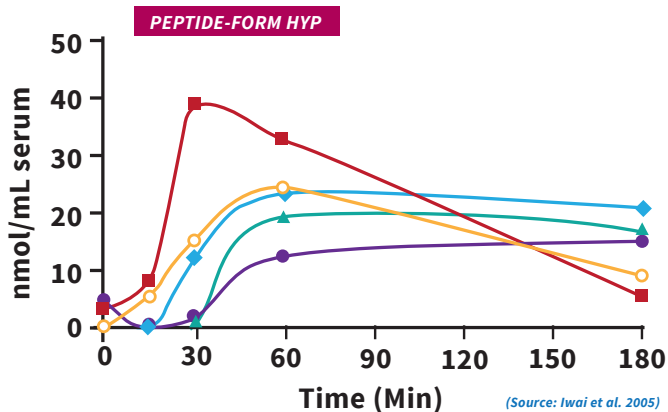


Figure 1 - Serum levels of hydroxyproline in free (top) and peptide forms (bottom) after oral ingestion of the porcine type I gelatin hydrolysate (9.4 g). data from all subjects are shown.

Subjects, ○ 45kg female 21 years olds; ● 45 kg female 23 years; ■ 55 kg female 23 years; ▲ 80 kg male 39 years; ◆ 65 kg male 25 years

› Naticol®'s benefits in PRE/INTRA/POST- WORKOUT

According to the literature and some of our scientific studies, fish collagen peptides such as Naticol® may be involved in:

- Muscle building (Naticol® is a pure **protein**)
- Joint and connective tissue protection
- Athletic performance improvement (Hembree et al., 1969)
- Skin protection against aggressive environmental conditions (chlorine, cold temperatures...)
- Anti-oxidant / anti-inflammatory activities (Aleman et al, 2011)
- Satiating effects (Veldhorst M.A.B et al., 2009)

› Easy to use

Naticol®, natural fish collagen peptides coming from Innovative collagen science enables the creation of healthy and tasty fitness products. It is stable to heating, at low pH. It can be added to bars, gels, powder mixes, shakes, beverages. It presents a good organoleptical profile (neutral taste and odor). Indulgence is not sacrificed.



Try our shake recipe !

- Almond milk 250 ml
- Fruit puree 120 g
- **Naticol®**, fish collagen peptides **10 g**
- Turmeric 2 g

References:

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- Hembree, W.C. et al., 1969, Arginine infusion and growth-hormone secretion. *Lancet*, 1(7584):52
- Iwai K, et al., 2005, Identification of food-derived collagen peptides in human blood after oral ingestion of gelatin hydrolysates. *J Agric Food Chem.*, 53(16):6531-6.
- P&S market Research, *Global sports nutrition market*, 2016.
- Veldhorst, M. A. et al., 2009, A breakfast with alpha-lactalbumin, gelatin, or gelatin TRP lowers energy intake at lunch compared with a breakfast with casein, soy, whey, or whey-GMP. *Clinical Nutrition*, 28(2), 147-155.

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.