



What is it?

- 1 PeptoPro® is a recovery product based on casein hydrolysate. It consists almost entirely of so-called di- and tripeptides, small protein fragments made up of chains of two or three amino acids.
 - 2 The protein fragments are so small that PeptoPro is immediately taken up by the body, without having to be digested.
 - 3 Contrary to whole proteins, PeptoPro is fully water-soluble.
 - 4 Thanks to DSM's special enzyme technology PeptoPro has a virtually neutral taste. The production process removes the bitter taste often associated with protein hydrolysates.
 - 5 PeptoPro forms the basis of a new generation of advanced sports nutrition products, the above functionalities making it possible to add it to thirst-quenching sports drinks and powders (instant drinks).
- After the successful introduction of PeptoPro by Dutch athletes at the Athens Olympics and other events in 2004, further development by DSM has resulted in a product with strongly improved stability. Its taste, often a problem when using protein (hydrolysates), has also been improved.
 - Among top athletes especially PeptoPro in powder form has proved to be very popular. This product meets a concrete demand of these athletes because it can be prepared when and where needed simply by dissolving the powder in water in the desired concentration and without prolonged cooled storage being required.

What does it do?

- PeptoPro greatly accelerates muscle recovery. When taken immediately after exercise it supplies the amino acids (building blocks of muscles) without delay to the place where they are needed (the muscles). As a result, the building blocks are directly available and recovery can start immediately. Muscles become 'inaccessible' about 30 minutes after exercise, so it is essential to use this window of opportunity to get the nutrients to the muscles. PeptoPro makes this possible. Normal proteins must first be digested and therefore reach the muscles only after much delay. Particularly after intensive exercise digestion largely stops, so that the efficiency drops even further.
- Being already entirely broken down, PeptoPro does not cause any gastrointestinal problems, in contrast to, for instance, typical 'protein shakes'.

Fact sheet
PeptoPro®



More about the product

- PeptoPro's beneficial effects on muscle recovery and thus on performance have been demonstrated in several studies carried out at various renowned universities in the United States, South Africa and the Netherlands.
- The combination of carbohydrates and proteins maximizes the glycogen level after exercise compared to supplementation with only carbohydrates.
- To influence recovery, an amount of 0.4 g protein per kg body weight is needed. A recovery product should therefore contain between 10 and 15 g protein per serving (330 or 500 ml per 30 minutes).
- Proteins also have a positive effect on the immune system.
- An adequate supply of proteins and carbohydrates is essential for a healthy immune system, which for top athletes obviously is a must to optimize performance.
- PeptoPro offers all the benefits of protein, but is taken up directly and much faster than normal protein sources.
- Normal protein products for athletes are usually offered in solid form as a powder to which milk or water is to be added, so that a thick, foaming substance is formed.
- These protein supplements are difficult to drink and are rather heavy on the stomach as the proteins must first be digested by the action of gastric acid and digestive enzymes before they can be taken up by the body.
- PeptoPro has been tested to be safe by accredited laboratories in, for instance, Genk (Belgium) and Cologne (Germany), and analysis has shown that it does not contain any banned substances.
- In total some 20,000 sachets (servings) of PeptoPro powder will be transported to China for use by the Dutch Olympic team during the Beijing Olympics.
- In the run-up to the Games, many times this number of sachets were used to support the Dutch athletes in their preparations to an Olympic medal. Use of PeptoPro has grown exponentially since 2004.

Use

- It is recommended to take 1 to 2 servings (with 12.5 g PeptoPro) after physical exercise, depending on the intensity. After really intensive exercise it is also possible to take 3 to 4 servings, this to be determined individually for each athlete. When the product is taken during exercise, use of 6 g PeptoPro per serving per hour is recommended. Many consumer products are available that deliver the exact right amount in combination with sugars.

For more information on products with PeptoPro, see www.peptopro.com.

PeptoPro®



The PeptoPro case: the origin

Besides giving financial support DSM, as Partner in Sport of NOC*NSF, also wanted to use its innovative strength to support the top athletes. One of the things that athletes wanted was shortening of the recovery period. PeptoPro offered a good solution as it enabled faster recovery, leading to better training efforts in both a qualitative and quantitative sense. To give athletes all the benefits of proteins while making it easier to use them, DSM and NOC*NSF developed PeptoPro in the run-up to the Olympic Games of Athens in 2004. The development of this revolutionary hydrolysate took place at DSM Food Specialties in Delft. Use of a patented enzyme cocktail results in the starting material, casein ('milk protein'), being cut into the desired di- and tripeptides, while it also removes the bitter taste often associated with protein hydrolysates. After the 2004 Olympics, development of the product was continued, taking into account the wishes of the athletes. This resulted in a substantial number of new consumer products containing PeptoPro, which are meanwhile available in many countries in different formulations, both as drinks and as powders (see also www.peptopro.com).

Which athletes are using PeptoPro?

In principle, PeptoPro can be provided to all Dutch Olympic and top athletes. Since its effects are clearly noticeable, its use has spread like wildfire. The Dutch soccer team is among its regular users. Since the European Championship in Portugal soccer players using PeptoPro immediately after the match to ensure quick recovery have become a regular sight, and during the European Soccer Championship in 2008 many players could also be seen using the product. PeptoPro is gaining ground in other countries, too. Various Olympic athletes, for instance from China, the Czech Republic, Slovakia, Norway and Finland, are using PeptoPro. In the past few years an increasing number of consumer products have been launched, so that PeptoPro is now also well within reach of 'recreational' athletes seeking to push back their boundaries. In the course of 2008 products with PeptoPro will also be launched via the largest supermarket chain in the Netherlands.

Athletes' experiences

Hinkelien Schreuder, swimming (50 m freestyle, 4X100 m freestyle relay, 4x100 m medley relay): *"I frequently use PeptoPro. Especially after very heavy exercises like power training, but also during training camps when I make extra hours of training. PeptoPro tastes a bit acidic, but I really notice the effect. I feel I recover more quickly and suffer less muscle aches, and this allows me to perform optimally during the next training session!"*

Sjoerd Hamburger, rowing (sculls): *"I use PeptoPro almost daily. I use it to bridge the gap between the end of my training session and the next meal. Immediately after exercising I use PeptoPro and I'm ready to go until the next sandwiches, potatoes or pasta. I also believe it enhances my recovery. PeptoPro is an integral part of my daily routine. I feel good about the product and with it, I'm going for Gold!"*

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