

# Power your performance

## Health benefit solutions

### Sports nutrition can power your business

- The market for sports nutrition products is expanding to mainstream consumers engaged in all kinds of physical activity
- The number of people who exercise, and their understanding of the role of nutrition in sports performance, is increasing
- The body needs carbohydrates, protein, fats, vitamins, minerals and other micronutrients to perform at its best
- DSM has a patented protein hydrolysate **PeptoPro®** proven to enhance exercise endurance, performance and recovery:
  - **PeptoPro®** is the perfect sports protein. It is quickly transported to where it is needed in the body, increasing endurance, supporting recovery and improving muscle growth in athletes
  - **PeptoPro®** can be combined with other critical nutrients to create sports nutrition products tailored to the needs of:
    - competitive athletes
    - physically active people of all ages

#### On the move...

The percentage of Americans who are physically active increased to 88% in 2008

The percentage of Europeans who engage in physical activity increased by 22% from 2002 to 2006

People stay active longer: around 35% of adults over 45 are exercising at least 3 times a week in the US

35% of Chinese adults participate in sports at least once a week

### Nutrients to power your performance

#### Vitamins

Quali®-B: (B1, B2, B3, B5, B6, B12, Folic acid)

Quali®-C

Quali®-D

Quali®-E

Quali®-H

#### Minerals

Iron

Zinc

Magnesium

Chromium

Calcium

#### Nutritional lipids

ROPUFA®/life'sDHA™ omega-3

PeptoPro® protein

Protein

Carbohydrate

#### Carotenoids

FloraGLO®

OPTISHARP®

FloraGLO® is a trademark of Kemin Industries, Inc.



#### How can we Health you?

The sports nutrition market is a highly competitive arena where innovation and quality win the race while complacency lags behind. We can help you win.

DSM's broad portfolio of innovative, high-quality and safe nutrients, combined with our consumer insights, market knowledge and application expertise, can help make your sports nutrition products more attractive to your target audiences, whether niche or mass.

We are the only integrated premix, vitamin and nutraceutical manufacturer capable of creating and delivering tailor-made formations to you anywhere. Blend in our extensive scientific expertise, technical know-how, global presence and total quality assurance for your peace-of-mind.



Via our global network of blend facilities we create value-adding nutrient combinations custom-made for you. Our Quali®-Blends can offer the right balance of ingredients to promote sports performance.

**DSM can help you get to market faster with appealing sports nutrition solutions that work.**



**DSM**

BRIGHT SCIENCE. BRIGHTER LIVING.



### PeptoPro® means business!

PeptoPro® is a protein hydrolysate that contains all 20 amino acids in the same natural balance as in casein, a milk protein, but with virtually no lactose or fat. PeptoPro® delivers amino acids in the form of di-peptides and tri-peptides, molecules so small they do not need further digestion in the body and can be delivered straight to the muscles.

This efficient amino acid delivery is of specific importance during intense physical activity when the body's digestive capacity slows down.

#### Before:

A high carbohydrate diet ("carb loading") has been a long-time practice of athletes in order to build up glycogen stores. Studies show that intake of protein along with carbohydrate stimulates greater increases in strength and produces a leaner body composition than carbohydrate alone. Pre-exercise ingestion of essential amino acids or protein alone also increases muscle protein synthesis.

#### During:

Consuming carbohydrate and protein during exercise, typically in beverage form, has been shown to increase sports performance.

#### After:

After exercise there is a short period of time when intake of carbohydrate plus protein efficiently stimulates glycogen and muscle protein synthesis, thereby reducing muscle pain. This typically happens within 45 minutes after exercise and is called the post-exercise "window of opportunity".

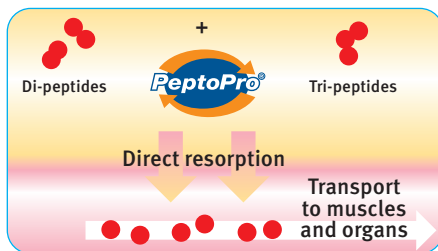
### PeptoPro® Human Trial Results

- PeptoPro® increased protein metabolism and stimulated muscle growth during combined endurance and resistance exercise
- PeptoPro® plus carbohydrate significantly enhanced endurance and performance in trained cyclists and reduced muscle soreness after a 60-kilometer course
- PeptoPro® improved endurance and performance in highly trained athletes during a bout of exercise performed after exercising to exhaustion and allowing a four hour recovery period
- PeptoPro® was effective in stimulating post-exercise muscle recovery

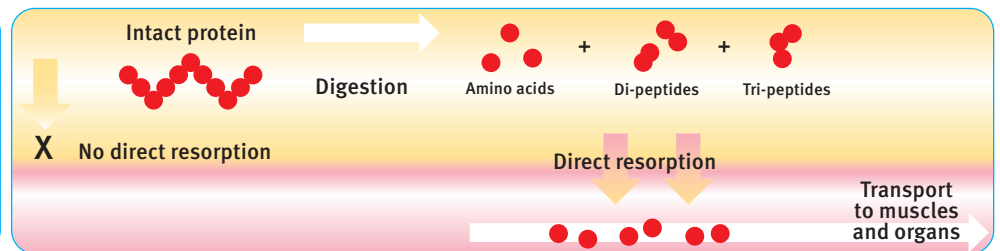
In combination with carbohydrates, PeptoPro® is an excellent source of protein for accelerating glycogen recovery after exercise. Muscle glycogen replenishment is one of the most important factors determining the time needed to recover after training. PeptoPro® works in synergy with carbohydrate to boost the insulin response during post-exercise recovery in trained endurance athletes and help replenish glycogen stores. This makes PeptoPro® the ideal ingredient to promote rapid recovery after exercise.

PeptoPro® is completely and instantly soluble in cold water and is available in forms suitable for a variety of sports nutrition products. It is used by professional tri-athletes, bodybuilders, cycling teams and several world-class football and rugby squads, as well as thousands of amateur and elite athletes all over the world.

#### How PeptoPro® reaches the muscles and organs



#### How intact protein reaches the muscles and organs



The above information is based on scientific studies, and a list of the latest references is available on request.



For DSM, quality is a way of life. This is the core of Quality for Life™: a seal of excellence for our products.

Quality for Life™ is the mark of quality, reliability and traceability. It means that DSM customers are getting the best nutrition & health ingredients, knowing the source on which they depend. Quality for Life™ means sustainability. It symbolizes our commitment to our environment, consumers, our business partners, our people and the regulatory framework that governs our operations.

With the Quality for Life™ seal, we guarantee peace of mind for you and for your customers. [www.qualityforlife.com](http://www.qualityforlife.com)

For more information on this Health Benefit Solution by DSM, visit [www.dsmnutritionalproducts.com](http://www.dsmnutritionalproducts.com), [www.quali-blends.com](http://www.quali-blends.com) or e-mail [info.dnp@dsm.com](mailto:info.dnp@dsm.com)

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