

COLLAGENS FOR SPORTS NUTRITION

***GETTING BACK
IN THE GAME FASTER
AND STRONGER***



From professional athletes to health-conscious consumers, today's active buyers are looking for more ways to up their game. With Rousselot Health & Nutrition's collagen solutions, you can give them a way to accelerate recovery, support connective tissue – and reach the next performance level.

A world of health benefits

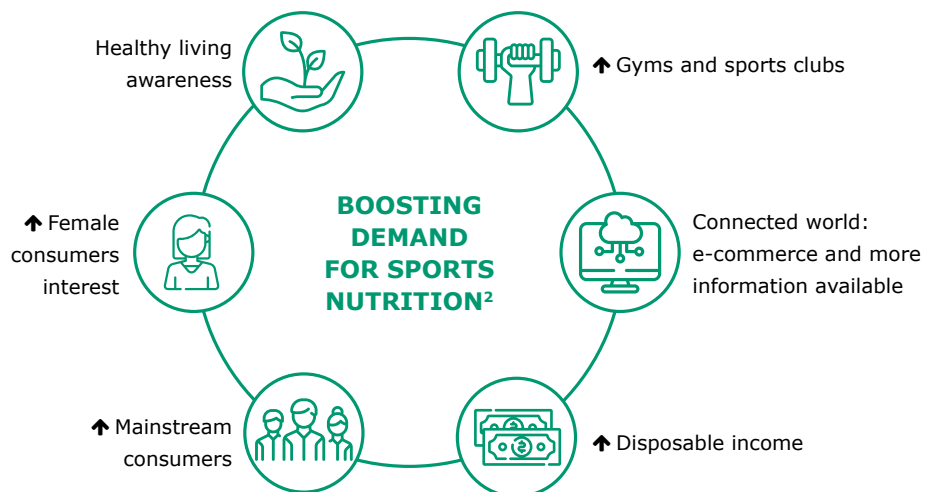
Rousselot
Health & Nutrition

DARLING
INGREDIENTS

SPORTS NUTRITION IS GROWING

Global Sports Nutrition Market, 2016-2019¹

8%
CAGR

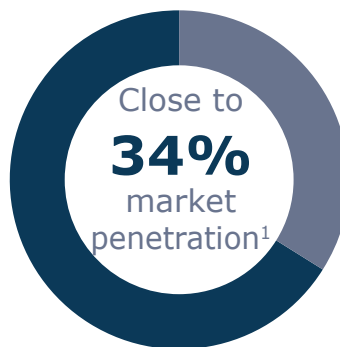


Recovery is becoming a key sports nutrition driver



Between 2016-2019, sports recovery grew at a CAGR of

5,7%



IN ALL SPORTS, RECOVERY IS VITAL, AFFECTING MUSCLE BUILDING AND ENDURANCE

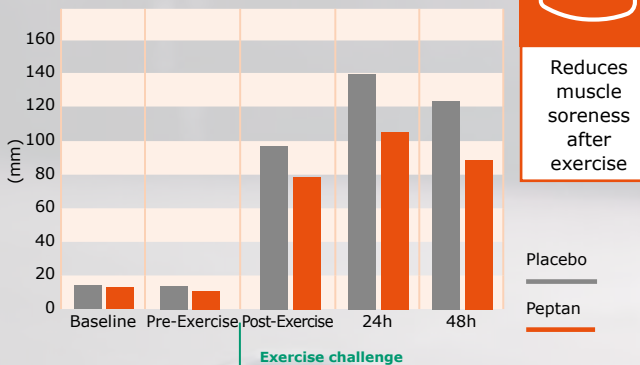
Sports recovery is a hot issue for both professional and amateur athletes

- Damage to muscle cells and extracellular matrix (ECM) during exercise causes pain, reduces strength and negatively influences athletic performance^{3,4}
- The level of muscle damage affects recovery time – and impacts training load for pro athletes and amateurs alike

PEPTAN® COLLAGEN PEPTIDES: A PROVEN SPORTS RECOVERY SOLUTION

- ✓ In a pioneering study, Peptan collagen peptides have been demonstrated to accelerate recovery and alleviate muscle soreness after intense exercise^{5/1}
- ✓ The study is the first to suggest that our bioactive collagen peptides reduce recovery time after physical activity, possibly due to accelerated repair of the ECM^{5/1}

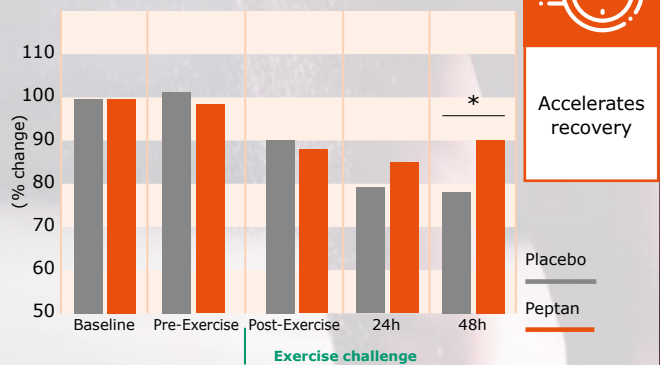
Muscle Soreness (by VAS score)



Muscle soreness was recorded on a VAS scale for pain after the performance of a squat (90° knee flexion) before and after a session of intense exercise by 24 participants supplemented with either Peptan or a placebo.

Clifford, T, et al., 2019.

Performance (by countermovement jump height)



Performance was measured by the height of a countermovement jump (knee flexion of 90° and jumping up as high as possible) before and after a session of intense exercise in 24 participants supplemented with either Peptan or a placebo.

Clifford, T, et al., 2019.

Peptan is the only collagen in the market offering proven benefits for sports recovery.

Rousselot scientific studies:

- I. Clifford, T, et al., 2019. The effects of collagen peptides on muscle damage, inflammation and bone turnover following exercise: a randomized, controlled trial. *Amino Acids* 51(4):691-704. doi.org/10.1007/s00726-019-02706-5
- II. Dar, Q, et al., 2017. Daily oral consumption of hydrolyzed type 1 collagen is chondroprotective and anti-inflammatory in murine posttraumatic osteoarthritis. *PLoS ONE* 12(4):e0174705
- III. Jiang J.X. et al., 2014. Collagen peptides improve knee osteoarthritis in elderly women: A 6-month randomized, double-blind, placebo-controlled study. *Agro FOOD Industry Hi Tech*, 25:19-23
- IV. Soniwala, S. et al., 2018. Oral Hydrolyzed Type 2 Collagen Protects Against the OA of Obesity and Mitigates Obese Gut Microbiome Dysbiosis. Poster presentation at ORS 2018 and OARSI 2018
- V. Kleinnijenhuis, A.J. et al., 2020. Non-targeted and targeted analysis of collagen hydrolysates during the course of digestion and absorption. *Anal Bioanal Chem* 412(4):973-982. doi: 10.1007/s00216-019-02323-x

Scan to access details of references 1-15 on rousselot.com



BRINGING JOINT HEALTH A STEP CLOSER

Adding an extra dimension to sports recovery by supporting joint health

- ▶ Excessive stress on joints is a challenge in sports that involves repetitive, high-impact movements such as running and cycling. Joint stress can damage cartilage, tendons and ligaments.⁶
- ▶ **Peptan** and **Peptan IIm** both can support joint health backed by science.^{7,8,9/II,III,IV}

> Multiple benefits from one single ingredient

Peptan

As a true all round ingredient for sports nutrition, Peptan offers besides recovery also proven effects on joint health. Peptan can

- ✓ Prevent cartilage degeneration and joint inflammation as demonstrated in an *in vivo* study^{7/II}
- ✓ Reduce joint discomfort^{8/III}

> For low dosage solutions Peptan IIm is an ideal ingredient

Peptan IIm

Peptan IIm is a hydrolyzed collagen type II matrix. It includes type II collagen and GAGs (glycosaminoglycans) and has been developed to promote joint health at a low daily dosage and across a broader range of low dosage application forms. An *in vivo* study has shown that Peptan IIm can

- ✓ Protect cartilage from degeneration^{9/IV}
- ✓ Stimulate cartilage lubrication^{9/IV}
- ✓ Reduce and prevent joint inflammation^{9/IV}

RAISING THE PROTEIN BAR

> Increasing protein intake contributes to improved sports performance

- ✓ Physically active individuals need more protein than average: from 1.4g/kg up to 2.0g/kg of body weight.¹⁰
- ✓ Peptan bioactive collagen peptides and ProTake hydrolyzed collagen have unique application characteristics that enable them to increase protein content across multiple application forms.
- ✓ Benefits of increasing total protein intake:
 - Promote muscle and strength during resistance training^{11,12,13}
 - Preserve and maintain muscle during endurance exercise^{11,12,13}
 - Prevent craving and help reach fitness and weight goals, collagen has been proven to produce high satiety levels in comparison to other proteins.¹⁴

ROUSSELOT HEALTH & NUTRITION COLLAGENS FOR SPORTS NUTRITION

Peptan



Collagen peptides for a healthy lifestyle

**TYPE I
COLLAGEN PEPTIDES**

Peptan Ilm



Bringing joint health a step closer

**HYDROLYZED COLLAGEN
TYPE II MATRIX**

ProTake



The perfect solution for protein enrichment and application versatility

HYDROLYZED COLLAGEN

Rousselot Collagens

- ✓ Fast, excellent cold-water solubility
- ✓ Neutral in taste and odor
- ✓ Highly stable
- ✓ Heat resistant
- ✓ Can be used in combination with each other, other protein sources, including whey and soy and many other ingredients
- ✓ Texture benefits at increased protein levels
- ✓ Proven health benefits:
 - ▶ Recovery
 - ▶ Joint Health
 - ▶ Protein enrichment

Versatile in formulations

- ▶ Collagen powder drinks
- ▶ RTD (Ready-to-drink)
- ▶ Bars
- ▶ Powder blends
- ▶ Tablets, capsules
- ▶ Sports gels



Powerful solutions for today's health-conscious consumers



Premium quality



From natural source



Clean label



Contains no WADA prohibited substance



Highly digestible and bioavailable¹⁵

Grow your business with us
**ROUSSELOT HEALTH & NUTRITION
BRINGS YOU ALL THE SUPPORT YOU NEED**
A WORLD OF HEALTH BENEFITS

R&D

BRAND

REGULATORY
SUPPORT

TECHNICAL
SUPPORT

FORMULATION
SUPPORT

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About Rousselot Health & Nutrition

At Rousselot's strategic segment dedicated to health and nutrition, we are committed to developing innovative ingredients answering today's demand for solutions offering proven efficacy, full safety, and premium quality. Our customers can rely on best-in-class products backed by trusted science, as well as on our expert support in formulation, product development, and regulatory advice. Our range of products includes Peptan, the leading collagen peptide brand worldwide, Peptan IIm, and ProTake, and offers "A world of health benefits" for a healthier tomorrow.

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peptan.com rousselet.com/health

Rousselot Headquarters

Rousselot B.V.
Kanaaldijk Noord 20
5681 NM Son
The Netherlands
+31 499 364 100
collagen@rousselet.com

WHITE PAPER

Peptan

A WORLD OF HEALTH BENEFITS

**GROWING FITTER,
STRONGER
AND HEALTHIER**

OPPORTUNITIES IN
SPORTS NUTRITION
AND RECOVERY

How can the nutraceutical industry take advantage of consumers' growing awareness of the importance of a healthy, active lifestyle? This whitepaper examines the developing sports nutrition market, as it expands from a group of core users to a wider range of casual users, and the increasing market value of supplements for sports nutrition. It explores the results of recent scientific studies that confirm the benefits of Peptan's collagen peptides for muscle recovery after intensive exercise.

By Frank Engel, Global Market Development Manager, Rousselot Health & Nutrition, November 2018

Rousselot
Health & Nutrition

DARLING
INGREDIENTS

SPORTS NUTRITION: A THRIVING MARKET



A CULTURE OF EFFICIENCY AND TIRELESS ENERGY

Living in the 21st century is to be a part of a constantly developing, fast-paced world. To be successful is to be tireless, efficient and energetic. Health and fitness have become a vital part of our lives, and as health education levels rise, increasing numbers of consumers recognize the importance of a healthy lifestyle. Global health and wellness trends are growing in popularity: apps, smart devices, and supplements are becoming part of the daily routine of today's active consumer.

Although sports nutrition products have been around for many years, the market is hugely benefiting from these health and fitness trends. One result is that the sports nutrition market has grown beyond its core category of sports nutrition users, such as athletes and bodybuilders, to gain a far broader consumer base of casual users seeking products that will support their lifestyle goals.

RAPID AND SUSTAINED GROWTH

This growth of the sports nutrition market is both substantial and sustained. Currently, sports nutrition is the fastest growing category in the consumer health market, rising in value from 9.8 billion USD in 2013 to 15.7 billion USD in 2018 and there are no signs of any slowing down. Euromonitor forecasts a 10.6% compound annual growth rate (CAGR) for this market between 2018 and 2023¹ (Figure 1).

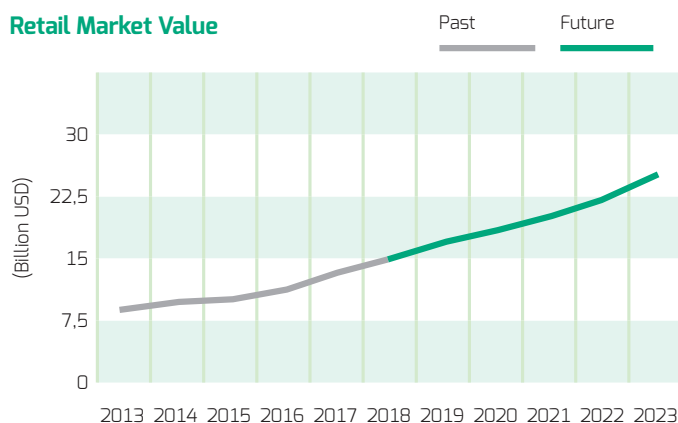


Figure 1: adapted from Euromonitor data 2018



INTRODUCING FRANK ENGEL

Frank Engel holds a Bsc. in Health Sciences and a Msc. in Health Food Innovation Management. He has several years of experience in multiple commercial, analytical and technical sales roles in the Food and Ingredients business before he joined Rousselot in 2018. In his role as Global Market Development Manager, Frank supports Rousselot's customers in any matter regarding Peptan products. This involves support on both technical and commercial level, and during first implementation and expanding phases.



EXCITING OPPORTUNITIES AND A MAJOR CHALLENGE

As international trends continue to fuel active lifestyles and increasing numbers of consumers begin to devote serious time towards their fitness, we can safely predict demand for sports nutrition products will continue to rise globally. This presents a unique, exciting opportunity for providers of nutraceutical products to expand their product range and grab a share of this prospering market¹. The big challenge these manufacturers face is how to identify the most valuable product range and ingredients for a spreading consumer base.

”

On a global level, sports nutrition continues to expand, growing not only among core users, but also by benefiting from global health and wellness trends

Natural Products Insider Vol. 8, no 4



¹ Euromonitor Sports Nutrition: Drivers and Prospects, July 2017.

DIFFERENT CONSUMER GROUPS WITH VARYING NEEDS AND WANTS

Within today's growing group of sports nutrition consumers, new subgroups are emerging, each with different expectations for products to match their lifestyles. By examining the different subsets, we can gain more understanding of the varied range of expectations and demands for sports nutrition products.

A CLOSER LOOK AT THE MAIN CASUAL USER GROUPS

Casual users represent the largest growth opportunity. Let's take a closer look at some of the main casual user groups and some of their characteristics.

HEALTHY AGERS

- A consistently strong category with high demand for food supplements contributing to healthy aging
- Health aging is one of the top three most important health benefit areas for nutraceutical companies, along with digestive health and general wellbeing²
- Healthy agers are looking for products that will help them remain active as they grow older
- Drawn to trusted brand names and recognizable, natural ingredients
- Driving demand for natural products targeting joint and bone issues
- Purchase their products in traditional grocery and convenience channels
- Especially interested in solutions they can use regularly with less risk of side effects than they would have using conventional medicines³

THE CORE GROUP: ATHLETES AND BODYBUILDERS

- Have long been aware of the importance of sports nutrition
- Will continue to use sports nutrition products
- Are increasingly well-informed and critical of formulations, without demanding clean label
- Use high volumes, consistent buying
- Have a high brand loyalty

LIFESTYLE USERS

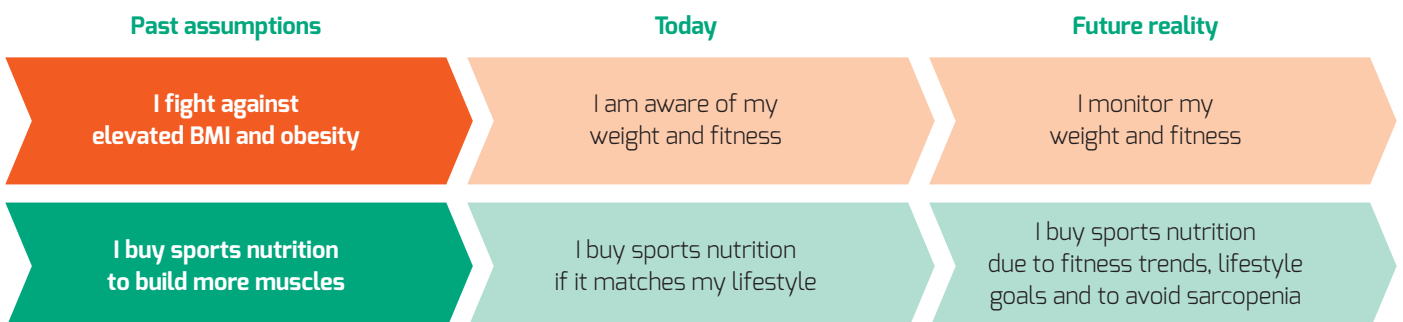
- Young, affluent professionals
- Including a growing number of female users
- Willing to invest heavily in fitness as a fundamental aspect of their high-performance lifestyles
- Demand high functionality and clean label
- Unwilling to sacrifice the health and wellness benefits that drive their sports nutrition purchases
- Require scientific proof of product claims
- Willing to spend more on convenience formats and natural ingredients

WEEKEND WARRIORS AND RECREATIONAL ATHLETES

- Engage in sports and exercise for recreational purposes
- Less sophisticated than the core group, drawn to trusted brand names and recognizable ingredients
- High demand for wholefood ingredients
- Tendency to follow top social media fitness influencers
- Purchase their products in traditional grocery and convenience channels

mCONSUMERS (MOBILE CONSUMERS)

- A newly emerging category of digitally engaged consumers
- Continuously tracking their fitness, wellness and health performance through wearable smart devices and apps
- Increasingly want personalization options
- Often keen to sign up for membership services if they value a company⁴



(Euromonitor Sports Nutrition: Drivers and Prospects, July 2017)

KEY FOCAL POINTS IN CATERING TO A DIVERSE CONSUMER GROUP

Developing a product that can cater to these diverse demands is a major challenge. Key points to focus on for all subgroups include:

- Health benefits that are backed by science
- Safe and natural ingredients
- Trusted, recognizable branding

² Vitafoods survey among 220 industry professionals www.vitafoods.eu.com/en/media-center/Event-Press-Releases/Digestive-health.html

³ www.cbi.eu/market-information/natural-ingredients-health-products/trends, August 2018

⁴ Euromonitor Sports Nutrition: Drivers and Prospects, July 2017

WHY SPORTS RECOVERY SOLUTIONS MATTER TO ACTIVE CONSUMERS



CASUAL CONSUMERS UNDERESTIMATE THE IMPORTANCE OF SPORTS RECOVERY

Sports is all about maintaining, or improving, one's level of performance and fitness. In order to do this, all these physically active individuals must keep their bodies in good condition in terms of strength and muscle mass. They are unaware, for example, that an intensive training programme with short recovery times raises the risk of injury, while strengthening the overall musculoskeletal system – which includes not just muscles, but also joints, bones, tendons and ligaments – can prevent injury. This means that in their sports routines, athletes must include enough time to recover and/or look for methods to accelerate recovery. High-performance athletes and body-builders are well aware of these challenges. For the growing number of recreational sportspeople, understanding the vital importance of sports recovery is just as important.

UNDERSTANDING AND MANAGING SPORTS RECOVERY FOR OPTIMUM RESULTS

Exercise challenges our musculoskeletal system, and primarily, our muscles. The smallest muscle unit, the muscle cell, has specialized proteins that generate movement. These cells together form thin muscle fibers, which are wrapped into bigger muscle bundles by a sheath of extracellular matrix, or ECM. Increasingly, this matrix is being recognized as a functional tissue, rather than just an envelope. While the muscle cell performs the actual muscle contraction, the ECM wrapping ensures that the combined force of all the muscle cells is transmitted to the ligaments and tendons in the form of movement. During intense exercise, both the muscle cells and the ECM suffer microscopic damage. The resulting swelling, pain, and reduced power and strength negatively affect athletic performance. They can even make simple activities such as climbing or descending stairs difficult.^{5,6,7}

In professional athletes, the level of muscle damage determines the time of recovery between intensive training sessions – and automatically impacts the training load in the next session. Among amateurs, the pain caused by intense exercise can easily disrupt the fitness program. This is why sports recovery deserves wide recognition as an important aspect of a healthy and fit lifestyle – not just for the high-performance athlete, but for the growing market of casual users, too.

THE LATEST SPORTS SCIENCE OFFERS MANUFACTURERS EXCITING OPPORTUNITIES

With scientific advances, new and exciting supplements are emerging in the field of sports nutrition. Products with the right micronutrients and ingredients can reduce inflammation and support muscle repair and recovery, thereby shortening overall recovery time.⁸ The result for professional athletes is that they can increase their training load, while casual users will succeed more easily in sticking to a fitness program at all.⁸

These scientific developments place a vital tool in the hands of the nutraceutical industry for helping to spread awareness of the importance of sports recovery, and allowing professional athletes and recreational consumers to maximize their health and fitness in a sustainable way. In order to take full advantage of this opportunity, it is of great importance for the industry to provide products that can effectively alleviate the issues that emerge from an active lifestyle, allowing athletes to improve their performance and casual consumers to maintain acceptable fitness and health levels. For manufacturers planning to develop a recovery supplement, the choice of ingredients is a crucial decision. Collagen, already having diverse proven health benefits, emerges as an ideal choice for sports nutrition.⁹

⁵ Clarkson, P.M., Sayers, S.P., 1999. Etiology of exercise-induced muscle damage. *Canadian Journal of Applied Physiology*, 24(3):234-48

⁶ Hyldahl, R.D., Hubal, M.J., 2014. Lengthening our perspective: morphological, cellular, and molecular responses to eccentric exercise. *Muscle & Nerve*, 49(2):155-70

⁷ Paulsen, G, et al., 2012. Leucocytes, cytokines and satellite cells: what role do they play in muscle damage and regeneration following eccentric exercise? *Exercise Immunology Review*: 1:18

⁸ Heaton L.E., et al., 2017. Selected In-Season Nutritional Strategies to Enhance Recovery for Team Sport Athletes: A Practical Overview, *Sports Med.* 2017; 47(11): 2201-2218

PIONEERING STUDY IDENTIFIES PEPTAN COLLAGEN PEPTIDES AS A SPORTS RECOVERY SOLUTION

A recent study, published in the peer-reviewed journal *Amino Acids*, performed by the highly reputable Newcastle University, United Kingdom, is the very first to bring to light the benefits of collagen peptides for sports recovery¹⁰. It underscores the value of collagen supplements for health and fitness, suggesting that collagen contributes to more rapid post-exercise recovery and performance improvement. Collagen thus emerges as a valuable contributor to maintaining a healthy lifestyle.

CONFIRMING PEPTAN® COLLAGEN PEPTIDES AS A SPORTS RECOVERY SOLUTION¹⁰

In the study Peptan collagen peptides were used, provided by Rousselot. Peptan is currently the world's leading brand for collagen peptides. Rousselot, the developer behind Peptan, recognizes that fast recovery is of primary importance to athletes, both in a demanding training schedule and during high-level performance seasons. already having established that Peptan has a pain-alleviating and anti-inflammatory effect¹¹, Rousselot, in this study, decided to focus research on the impact of Peptan collagen peptides on recovery after exercise. For this purpose the potential symptom-alleviating effect of Peptan was investigated in an established model for muscle damage induced by intense physical activity. In particular, two approved indicators of exercise-induced muscle damage were investigated: muscle soreness and function. The outcomes of the research have broad practical relevance to all active populations, including casual consumers.

NINE DAYS OF PEPTAN, 20G PER DAY

The study was designed as a double-blind, randomized, placebo-controlled trial, involving 24 active young men. The tested daily dosage was a total of 20g Peptan or placebo taken in two servings: 10g in the morning and 10g in the evening.



Starting at baseline, the participants consumed their assigned supplements for nine days, including a run-in period of 7 days allowing the supplement to take effect. This was followed by a session of intense physical exercise of 150 drop jumps aimed at inducing muscle damage. Readout measurements were taken at baseline (BL), just before the exercise (pre-exercise) and right after (post-exercise), as well as 24h and 48h after the session.

⁹ Shaw, G. et al., 2016, Vitamin C-enriched gelatin supplementation before intermittent activity augments collagen synthesis. *American Journal of Clinical Nutrition*, 105(1):136-143

¹⁰ Clifford, T, et al., 2019, The effects of collagen peptides on muscle damage, inflammation and bone turnover following exercise: a randomized, controlled trial. *Amino Acids* <https://doi.org/10.1007/s00726-019-02706-5>

¹¹ Jiang J.X., et al., 2014, Collagen peptides improve knee osteoarthritis in elderly women: A 6-month randomized, double-blind, placebo-controlled study. *Agro FOOD Industry Hi Tech*, 25:19-23

THE RESULT: PEPTAN COLLAGEN PEPTIDES ACCELERATE RECOVERY

The results were very clear. Supplementation with Peptan collagen peptides clearly lowered the perceived muscle soreness at all time points after the intense muscle-damaging exercise (Figure 2). Even more strikingly, the Peptan-supplemented participants demonstrated an improved performance with the effect reaching statistical significance at 48h post exercise (Figure 3). This positive outcome indicates that Peptan helps to accelerate the process of recovery from muscle damage induced by intense exercise. Since collagen is a key component of the extracellular matrix sheath that wraps the muscle fibers, it is conceivable that Peptan supplementation might either prevent damage to the sheath or allow it to repair more quickly.

Muscle Soreness (by VAS score)

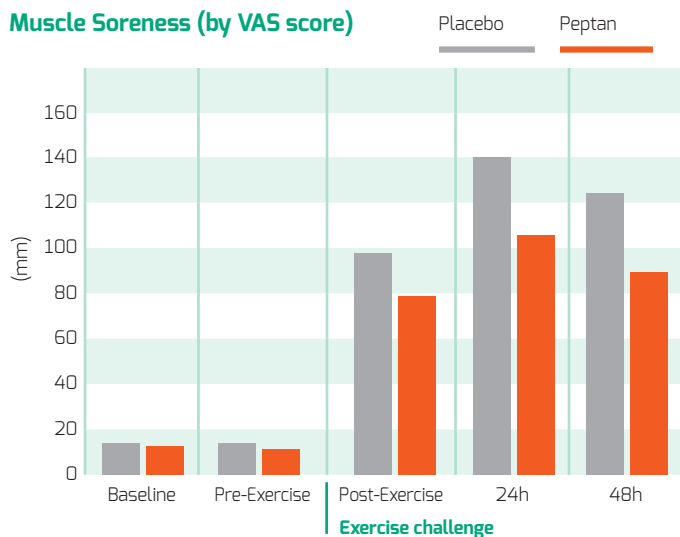


Figure 2: Muscle soreness was recorded on a VAS scale for pain after the performance of a squat (90° knee flexion) before and after a session of intense exercise by 24 participants supplemented with either Peptan or a placebo.

Performance

(by countermovement jump height)

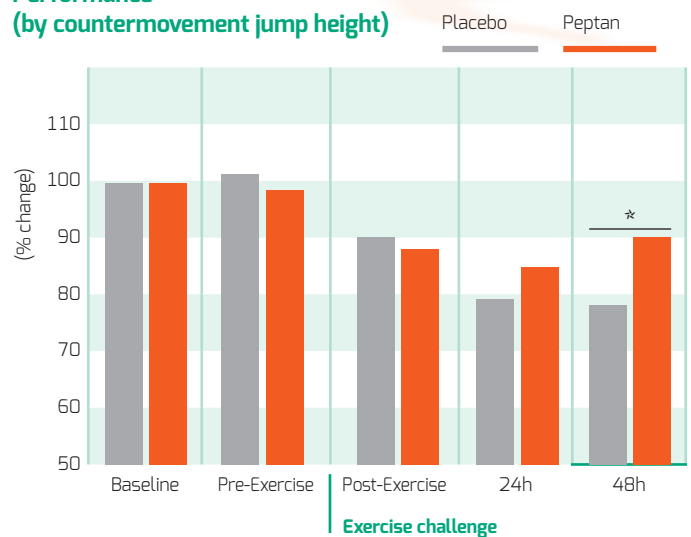


Figure 3: Performance was measured by the height of a countermovement jump (knee flexion of 90° and jumping up as high as possible) before and after a session of intense exercise in 24 participants supplemented with either Peptan or a placebo.

GOOD NEWS FOR ATHLETES AS WELL AS CASUAL USERS

While awareness of the positive effects of collagen has been growing for some time, this study is the first to prove that collagen peptides can reduce the recovery time after physical activity. The outcome clearly indicates that athletes can use Peptan to maintain a high level of performance after a period of activity. This data is also highly valuable for the new casual users of sports nutrition products, showing that the difficulties of sustaining a consistent exercise regimen can be reduced, and supporting the lifestyle of this new, broad consumer base.

” In our study, the supplementation with Peptan clearly alleviated muscle soreness and enhanced the recovery of counter movement jump performance after the intense exercise bout. To our knowledge, this is the first study to suggest that collagen peptides might reduce recovery time after physical activity. We speculate that this could be due to an accelerated repair of the extracellular matrix.

By Dr Tom Clifford, Researcher in Sports and Exercise Nutrition at Newcastle University and leading scientist of the study

FURTHER LITERATURE

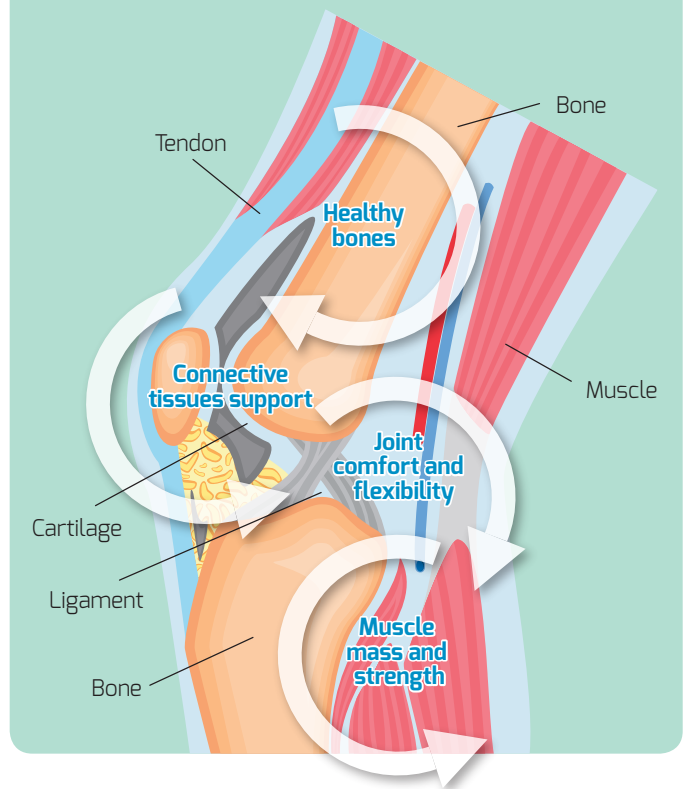
In a recent literature review, the International Olympic Committee (IOC) included hydrolyzed collagen peptides in its statement regarding the benefits of sports supplements. Based on scientific literature, it suggests that hydrolysed collagen may increase collagen production and decrease joint pain.¹⁹ This recognition by a sporting body of the IOC's stature highlights the possibilities of collagen peptides. Manufacturers aiming to tap into this burgeoning market may consider collagen peptides an ideal ingredient for sports nutrition and recovery.

REDUCED KNEE DISCOMFORT AMONG PROFESSIONAL ATHLETES

Another recent Rousselot study confirms the value of collagen peptide supplements for athletes. In this study, a group of young, talented athletes training to be professionals, took 15g per day of Peptan collagen peptides in orange juice for a period of 24 weeks. The resulting data shows a trend for a decrease in joint pain, especially in the knees, but also in the arms, shoulders, and hands during and after physical activity. Participants also reported an increase in the quality of life. These findings clearly align with the benefits for sports recovery observed in the first study, suggesting that Peptan collagen peptide supplementation can offer benefits in injury prevention, tissue repair, and muscle recovery.¹⁹

PEPTAN'S BENEFITS GO EVEN FURTHER

In addition to accelerating sports recovery, collagen peptides have also been proven to support overall musculoskeletal health. Many studies have indicated that collagen improves overall joint and bone strength, allowing for better mobility and thus supporting another vital aspect of an active lifestyle.^{12,13,14,15,16,17}



¹²Dar, Q.A. et al., 2017, Daily oral consumption of hydrolyzed type 1 collagen is chondroprotective and anti-inflammatory in murine posttraumatic osteoarthritis. PlosONE 12 (4): e0174705

¹³Minaguchi, J. et al., 2005, Effects of ingestion of collagen peptide on collagen fibrils and lycosaminoglycans in Achilles tendon. Journal of Nutritional Science and Vitaminology, 51:169-174

¹⁴Jiang, J.X. et al., 2014, Collagen peptides improve knee osteoarthritis in elderly women: A 6-month randomized, double-blind, placebo-controlled study. Agro FOOD Industry Hi Tech, 25:19-23

¹⁵Shaw, G. et al., 2016, Vitamin C-enriched gelatin supplementation before intermittent activity augments collagen synthesis. American Journal of Clinical Nutrition, 105(1):136-143

¹⁶Baar, K., 2015, Training and nutrition to prevent soft tissue injuries and accelerate return to play. Sports Science Exchange, 28(142):1-6

¹⁷Ribas-Fernandez, J.L. et al., 1998, Effects of gelatin hydrolysates in the prevention of athletic injuries. Archivos de Medicina del Deporte, 15(16):277-282

¹⁸Maughan RJ, et al. Br J Sports Med 2018;0:1-17

¹⁹Rousselot, unpublished data, 2018

MOVING INTO THE SPORTS RECOVERY MARKET



AN EXCITING PROPOSITION

The market for sports recovery supplement continues to grow. There is huge potential to develop new concepts for the amateur market, while building on the core market of high-performance athletes and bodybuilders. The benefits of nutritional supplements are well known to this core target group of athletes and experts. The expanding user base brings within reach a whole new group of consumers aiming to improve their recovery times and reduce discomfort from of exercise, supporting their fitter, healthier, and more active lifestyles.

COLLAGEN PEPTIDES DESERVE A STARRING ROLE IN SPORTS RECOVERY SOLUTIONS

The studies explored in this whitepaper highlight the benefits of collagen peptides as a recovery supplement. The scientific evidence suggests that choosing collagen as the main ingredient in a sports recovery supplement may well be a decisive choice in this rapidly growing market. Before acting on this knowledge, manufacturers face two more questions: how do you select a manufacturer of collagen peptides? And how do you maximize impact by choosing an ingredient that satisfies the diverse desires across this large market?



“ **A great collaboration in the field of sport and nutrition.**”
Rousselot is the collagen peptides supplier to professional athletes training at High Performance Centre Papendal in the Netherlands since 2019. Founded in 1971, Papendal is the largest elite sports center in the Netherlands. It hosts around 550 top athletes, providing them with everything they need in order to train for, and compete in, national and international competitions.

Dr Jeroen Wouters, Innovation Manager Sports & Nutrition at Papendal

“ With my intensive training program I must keep my body in good condition. An important part of my daily routine is Peptan collagen peptides. I use Peptan every day and since I started with it, 2 years ago, it has been very important to boost my performance and my recovery after games

Bjorn Kellerman, Professional hockey player, Kampong and Dutch National team



PARTNERING WITH ROUSSELOT HEALTH & NUTRITION

As the world's leading collagen peptides brand, Peptan has developed a reputation for being able to fulfil the many different demands that are essential for succeeding in the sports recovery supplement market. For this and other reasons, many manufacturers around the globe have found Peptan to be an ideal partner to work with.

WHY PEPTAN PRODUCTS ARE LIKELY TO SUCCEED IN THE DIVERSE SPORTS RECOVERY MARKET

- ✓ The overall high quality of Peptan products will satisfy all users, from high-performance athletes working with nutritional specialists to recreational users.
- ✓ Professionals athletes can increase their training load, thanks to accelerated muscle repair and shorter recovery times.
- ✓ Young consumers, such as the lifestyle and mConsumer users who require scientific evidence for health and fitness claims, will feel secure in the knowledge that Peptan is a scientifically-backed, high-quality product
- ✓ Lifestyle and casual users will be satisfied by Peptan's use of clean label ingredients, and by trusting in a globally respected brand
- ✓ For healthy agers looking to maintain an active lifestyle as they grow older, Peptan collagen peptides can promote musculoskeletal health.
- ✓ Peptan collagen peptides are highly soluble and neutral in taste, so manufacturers can tailor each product's formulation and branding carefully to allow for maximum taste, enjoyment, and popularity, whether targeting traditional grocery channels or specialist networks.



PARTNERING WITH ROUSSELOT HEALTH & NUTRITION

ADDITIONAL REASONS FOR PARTNERING WITH US

- ✓ Working with us offers you a unique opportunity for developing new ideas for the market. Innovation is a core principle of Rousselot Health & Nutrition. Through collaboration, we aim to continually explore new ways forward in the field.
- ✓ Rousselot Health & Nutrition provides its customers with the utmost care. You will benefit from outstanding formulation support. Our industry experts are equipped to help you create the perfect solution for your products: with Peptan, you will get the product you want.

Customers using Peptan have the reassurance of working with a globally recognized brand, known and respected by both the industry and consumers.

- ✓ Peptan neither contains nor processes substances prohibited by the World Anti-Doping Agency (WADA). This confirms our prioritization of safety – a choice further emphasized by our use of premium, safe, and 100% traceable ingredients.

“ At Rousselot, we are meticulous in our aim to satisfy both the client and the consumer with the highest-quality products and services that are on offer. For these reasons, it may be clear that Peptan is the ideal partner for success in the sports recovery supplement market.

Lisette van Lith, Global Director,
Rousselot Health & Nutrition



WANT TO LEARN MORE OR DISCUSS POSSIBILITIES?

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Rousselot Headquarters

Rousselot B.V. +31 499 364 100
Kanaaldijk Noord 20 collagen@rousselot.com
5691 NM Son - The Netherlands