Beauty from within
Proven efficacy

Beauty from within

Peptan®
Collagen peptides for healthy skin

Improvement by nature

www.peptan.com
Peptan® collagen peptides
The secret to beautiful skin

Beautiful skin on the outside requires a healthy foundation on the inside. Increased consumer understanding of this, coupled with an aging population and a preference for less invasive beauty treatments, is currently driving the global nutricosmetics or ‘beauty from within’ market, which is tipped to reach $4.24 billion by 2017.1

For many years, Asian consumers, particularly the Japanese, have recognized the benefits of fish collagen peptides, plus their anti-aging attributes when consumed daily as ingestible, nutricosmetic products. With growing global awareness of their clinically proven credentials, collagen peptides are now gaining worldwide recognition and popularity.

Skin beauty solutions
with clear consumer appeal

This vibrant industry presents nutraceutical and dietary supplement manufacturers with an exciting innovation opportunity. But, effective bioactive ingredients that deliver fundamental skin health benefits are critical to develop cutting edge solutions that resonate with your target market.

Peptan® is the world’s leading collagen peptide for skin beauty. Its high quality proven efficacy and broad application potential make Peptan the nutricosmetic ingredient of choice for both manufacturers and consumers across the globe.

Collagen peptides
Building blocks to promote younger-looking skin

Collagen is the most abundant protein in the human body and constitutes 70% of dry mass skin content.2 A key component of the skin’s structure, collagen fibers provide the infrastructure for elastin, which maintains skin elasticity, and for hyaluronic acid to trap moisture.

As we age, the number and activity of skin cells (fibroblasts) that produce collagen decreases. As fibroblasts become less active, the collagen matrix that provides skin firmness and structure starts to break down. Skin then becomes dehydrated and thinner, plus fine lines, wrinkles and deep furrows start to appear.

Smooth, firm and younger-looking skin requires optimum levels of well-organized collagen fibers to ensure skin retains its elasticity, firmness and moisture-binding capacity.

Clinical studies4-6 have shown that Peptan can support:

- Skin collagen density and structure
- Skin hydration
- Smoother, more supple skin
- Counteracting visible signs of aging
Right from the start, Rousselot has taken a leading role in supporting clinical research involving women to substantiate the efficacy of our Peptan ingredients. We continue to invest in ongoing research and clinical studies.

Placebo-controlled clinical studies were conducted with leading skin institutes in France and Japan, using the latest advanced analytical technology. These aimed to demonstrate the multiple benefits of Peptan across a number of key skin health criteria.

**Improving skin collagen density and structure**

Skin that has aged by the passage of time and by exposure to the sun shows significant levels of damaged, fragmented collagen in the dermis. Presence of fragmented collagen can inhibit collagen synthesis and elastin production, leading to a loss of elasticity and a reduction in total collagen density. It also disturbs important collagen-water molecular interactions, which affect the collagen matrix stability.\(^2,3\) The degree of collagen fragmentation can be assessed by confocal laser image technology to provide evidence of the collagen re-structuring process in the deeper layers of the skin.
Skin restructuring in just one month
A clinical study by COSderma in France involving 106 women showed that after just four weeks of Peptan F (fish origin collagen peptides) consumption, collagen fragmentation decreased significantly in the deep layers of the skin. And, after 12 weeks of Peptan F intake, there was a 31% reduction, compared to the start of the study. This restructuring of the skin is key to our understanding of how Peptan F can boost the collagen network, providing clear anti-aging benefits and a more youthful appearance.

Enhancing skin hydration
Environmental pollution, aging and harmful UV rays can damage collagen fibers, limit hyaluronic acid production and decrease skin water content. This can cause skin to look tired and dehydrated. A double-blind, placebo-controlled trial of Peptan collagen peptides among 33 women (aged 40-59) by Souken in Japan showed that Peptan increased skin hydration by 28% after eight weeks. 91% of this research group reported a higher skin hydration level during the same period.

Skin hydration level - Corneometer® measurement

Skin moisture level increase - Corneometer® measurement

Moisturising effect was observed in 91% of the Peptan® group of women

Skin hydration level - Corneometer® measurement
Peptan® offers a key bioactive nutrient for skin beauty and has been demonstrated in scientific studies to promote fibroblast activity and collagen restructuring, resulting in improved skin suppleness, elasticity and hydration, thus preventing skin aging.

**Collagen peptides: the mechanism of action**

Small hydroxyproline-containing peptides in the bloodstream, which originate from the oral consumption of collagen peptides, are believed to act as a false signal of the destruction of endogenous collagen in the body. It has been shown that collagen peptides may act as a messenger and trigger the synthesis and reorganization of new collagen fibers by stimulating fibroblast cells. Collagen peptides are also shown to stimulate expression of elastin and glycosaminoglycans (GAGs) such as hyaluronic acid (HA).

Additional studies have shown that collagen peptides can enhance the fibroblast density and the thickness of collagen fibrils in the dermis and may improve the mechanical strength of the skin by increasing the decorin ratio.

Multiple studies and research teams have demonstrated that oral intake of 4-10g per day of collagen peptides have a positive effect on human tissues containing collagen such as skin. Key findings were that the ingestion of collagen peptides can improve skin properties such as elasticity and smoothness, and significantly increase skin hydration. These observations are in line with the mechanisms of actions that have been reported for collagen.

These mechanisms of action have been validated with Peptan in ex-vivo skin studies, using histological techniques to confirm the increased collagen and GAGs production in the dermis following the addition of Peptan to the skin explants culture medium.

**Bioavailability**

To ensure bioactivity, it is essential to have exceptional bioavailability. Human and other in-vivo studies have confirmed that collagen peptides are highly digestible and bioavailable. Indeed, 90% of the collagen peptides are digested and available within the connective tissues just a few hours after digestion. Collagen peptides present in the blood will reach the connective tissues as it has been well demonstrated by Watanabe-Kamiyama, Ichikawa and others.
Peptan®
A safe and accepted ingredient

Quality first
Peptan is manufactured by Rousselot in France and Brazil in state-of-the-art certified plants meeting the highest international food and quality standards with traceability throughout the process. Peptan are premium quality collagen peptides, safe and free from any preservatives or additives.

The answer to every beauty formulation question
With compelling clinical evidence, ease of application and clear functional benefits, Peptan provides you with the trusted ingredient you need to enter and achieve success in the nutricosmetic / ‘beauty from within’ market. With the widest range of collagen peptides available, Peptan can be used in a range of end products. Peptan F, fish collagen peptides, remains the most popular choice for beauty applications, however. Popular beauty applications include powder drinks, beauty beverages, bars, and gummies.

Ask the experts
With application and expertise centers located around the world, Rousselot is continuously developing new product concepts and recipes to support our customers’ innovation focus. Our technical experts are available to provide local application advice to customers, anywhere in the world. Rousselot also offers local regulatory support and provides scientific evidence files to back up the efficacy of Peptan.

Collagen peptides are recognized as a safe ingredient by authorities globally. During each of the Peptan clinical studies, all participants were asked to report back on the observation of any side effects. No adverse effects were reported in any of the studies. Peptan is a trusted and recognized ingredient used globally in hundreds of successful end products in the nutricosmetic and nutraceuticals markets today.
About Rousselot® and Peptan®:
Rousselot® and Peptan® are both brands of Darling Ingredients Inc. Rousselot is the leading manufacturer of gelatin and collagen peptides to the food, nutrition and pharmaceutical industries. Rousselot's wide range of collagen peptides are marketed under Peptan, globally recognized as the leading brand in its category. Rousselot benefits from a global sales and production network of 13 plants and 10 sales offices located in Europe, North America, South America and Asia.

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