

Collagen on the Cutting Edge

The next generation of collagen ingredients is here.

BY MIKE STRAUS

A new age of collagen products is on the way thanks to the innovation of ingredient suppliers. At the end of the day, their significant research and ingredient development will give formulators more flexibility to invent with collagen. This puts the market in position to better meet the increasingly sophisticated needs of educated consumers. Here are some of the doors opening.

More Applications Than Ever

Emerging studies are unveiling collagen's versatility and utility across a wide variety of applications far beyond just beauty-from-within.

Collagen peptides offer benefits ranging from anabolic body toning to increasing strength and flexibility of ligaments and tendons, says Angie Rimel, marketing communications manager, Gelita USA (Sioux City, IA). "Specific [collagen] peptides stimulate joint cartilage regeneration and support bone health by promoting biosynthesis of the extracellular matrix. The fact that peptides also contribute to immune function is a fairly new discovery."

Evidence that collagen can support the immune system prompted Gelita to launch its new branded ingredient Immupept. Immupept is a bioactive collagen peptide that stimulates keratinocytes and fibroblasts, maintaining the skin's defense barrier and regulating proteins involved in the immune response.

Collagen on the Brain

Brain health is primed for a collagen breakthrough, says Abdul Alkayali, vice president of sales and marketing, Certified Nutraceuticals (Pauma Valley, CA).

Specifically, Alkayali says, "Collagen peptides from select jellyfish are a superfood for the brain. They are a complete protein containing all 20 essential and nonessential amino acids, plus macronutrients and calcium-binding proteins."

His firm's patented KollaJell collagen peptides come from wild-caught, edible cannonball or barrel jellyfish. KollaJell is rich in neurotransmitters dopamine, glutamate, glycine, tyrosine, GABA, and norepinephrine.

The fact that there exists 28 different types of collagen means there is rich opportunity for research. This also means, however, that it's im-

portant that formulators select the right type of collagen for their application, Alkayali says.

"It's important for formulators to look for collagen peptides with the right molecular size," he advises. "Smaller collagen peptides, resulting from too much hydrolysis, lose naturally occurring mucopolysaccharides, hyaluronic acid, chondroitin, and glucosamine."

Collagen Goes Clinical

Collagen is emerging in clinical nutrition. In fact, collagen peptides are ideal for use in clinical nutrition formulations, says Liz Clarke, CFS, technical marketing manager for collagen supplier Nitta Gelatin North America (Morrisville, NC). With this in mind, Nitta Gelatin recently added a registered dietician to its North American research and development team. The goal? To capitalize on growing interest from the clinical nutrition segment.

"It's really exciting to see clinicians take note of the studies and begin formulating for very targeted health benefits," Clarke says. "We're seeing more interest from the clinical nutrition segment than ever before, and that seems to be a product of the growing clinical



data supporting specific collagen ingredients' ability to support health concerns like pressure injuries, blood sugar balance, or cardiovascular function."

The clinical nutrition market could be the next major opportunity for collagen ingredients. Nitta Gelatin is conducting ongoing research on the relationship between wound healing and bioactive collagen dipeptides proline-hydroxyproline (PO) and hydroxyproline-glycine (OG). The company also developed a proprietary enzymatic process to concentrate PO-OG to a level 30 times higher than that of standard collagen peptides. The result, Clarke says, is an ability to invoke major physiological responses within skin and joint tissue in human clinical studies.

How Do You Take Your Collagen?

Brands are bringing to market a variety of new collagen delivery formats. Consumers are more discerning these days, increasing pressure on companies to ensure their products satisfy the target customer, says Jaume Reguant, healthcare director, Bioiberica (Barcelona, Spain).


"Consumers are prioritizing taste and convenience," Reguant says. "They're also seeking solutions that can be easily added to their daily routines as they look to balance the demands of a busy lifestyle. The shift in the market is propelling innovation in collagen-based products, from powders and shots to dairy products, gummies, beverages, snacks, and more."

Part of this change is being driven by the type of consumer now looking for collagen and mobility ingredients, Reguant says. While the previous target market was seniors or athletes, a growing population of 25- to 44-year-old consumers is taking a proactive approach to support their mobility.

Consumers also want results. In 2020, Bioiberica completed a preclinical animal study on a blend of its branded Collavant n2 type 2 collagen, patented Mobilee hyaluronic acid, chondroitin, and glucosamine. It found that the combination product improved cartilage appearance, reduced cartilage degeneration, and resulted in significantly better synovial membrane values on histology.¹

Everywhere Collagen

Companies are leveraging new opportunities in collagen to appeal to a wide consumer base. As the toolbox grows, companies will

discover new ways to capture the consumer's imagination. 

Mike Straus is a freelance writer living in Kelowna, Canada. He writes for trade publications like Hoist, Canadian Chiropractor, Grow Opportunity, and Massage Therapy Canada.

Reference

1. Sifre V et al. "Macroscopic and histological improvements in joint cartilage, subchondral bone and synovial fluid membrane with glycosaminoglycans and native type II collagen in a rabbit model of osteoarthritis." *Osteoarthritis and Cartilage*, vol. 28, supp. 1 (April 2020): S206



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