

September 2022

GLOBAL

PERSONAL CARE

INGREDIENTS • FORMULATION • MANUFACTURE



: Skin
: microbiome
: claims - science
: versus marketing

: Interview:
: Gattefossé
: president Ségolène
: Moyrand-Gros

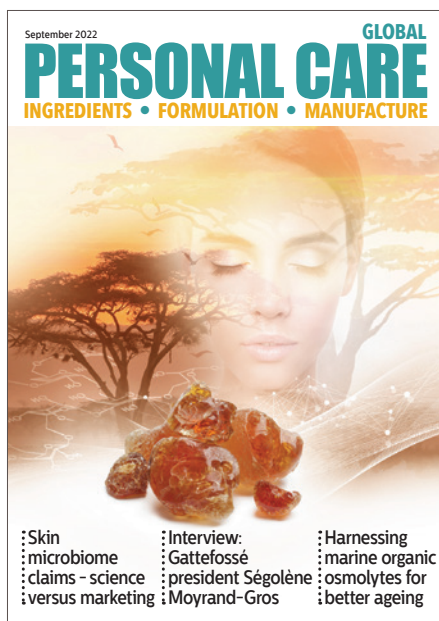
: Harnessing
: marine organic
: osmolytes for
: better ageing

PhytoCollagen: the plant-based alternative

Collagen is a long helical biopolymer that gives structure and stability to human tissues. In cosmetics, it is one of the most popular active ingredients - it finds applications as anti-ageing active, moisturizer, or as film former. Yet, collagen is derived from animal or synthetic sources which does not follow current cosmetic trends that drift away from animal-derived raw materials towards plant-derived, sustainable alternatives. With PhytoCollagen we offer a collagen alternative sourced from the acacia tree that combines the cosmetic benefits of collagen with a green, sustainable source. This plant-derived collagen alternative perfectly matches consumer expectations: In a consumer study, 69% of participants said they prefer vegetal collagen over animal collagen (5%) in their personal care products. Simultaneously, *in vivo* studies confirmed that the collagen substitute from the acacia tree entirely mimics the cosmetic benefits of animal collagen. This makes it an ideal replacement - a truly plant-derived, sustainable, green, vegan, alternative to animal collagen that is currently used in cosmetics.

Natural alternatives from the acacia tree

Collagen is the most abundant structural polymer throughout the animal kingdom - it provides strength, elasticity and resilience to animal and human tissues. In addition, collagen is one of the most popular cosmetic ingredients. Despite its popularity, collagen is mainly derived from animal sources, which is a disadvantage in times when consumer awareness of animal welfare has made animal-derived cosmetic raw materials unpopular. Unfortunately, plants do not produce genuine collagen. Instead, the functional requirement for strength, elasticity, wound healing and water retention, in plants is filled by long, branched biopolymers. One example is arabinogalactan from the acacia tree. The cosmetic preparation of such acacia



tree biopolymers is marketed PhytoCollagen (Figure 1). Despite the structural differences, PhytoCollagen shares many of the cosmetic benefits with animal collagen.

Meeting consumer expectations

In a consumer study, participants were asked to directly compare plant-derived collagen with synthetic collagen and animal collagen, to find the most attractive form for cosmetics. And the results were very clear. First, consumers associate collagen with cosmetic benefits - they expect collagen to be a powerful active ingredient with anti-ageing, moisturizing and protective properties. Second, consumers have a clear preference for plant-derived collagen. When given the choice between plant-derived, animal-derived, or synthetic collagen, they attribute higher

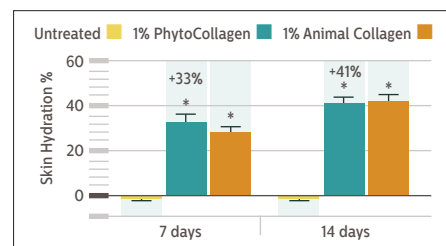


Figure 2: PhytoCollagen mimics animal collagen by improving skin hydration to the same extent. 20 women with dry skin applied a test cream with 1% PhytoCollagen to one forearm and a second test cream containing 1% animal collagen to the other forearm. After 7 and 14 days, the treatment with both products equally increased skin hydration. Skin hydration was measured with a Corneometer MPA 5 CPU. N = 20; Mean + SEM. Student's t-test vs. untreated; * = $p < 0.05$

efficacy and more safety to plant-derived collagen (data not shown). Therefore, strong cosmetic concepts can be built on collagen as consumers already associate it with cosmetic benefits and positive attributes. This advantage is elaborated even further by choosing the right source of collagen - a plant-derived collagen alternative.

As effective as animal collagen

To verify that PhytoCollagen mimics the action and cosmetic benefits of animal-derived collagen, a double-blind, placebo-controlled *in vivo* study was performed. Several age-related skin properties were measured and PhytoCollagen clearly improved all of them. These anti-ageing effects were supported by a clinical evaluation (data not shown). In addition, the moisturizing properties of PhytoCollagen to those of animal collagen were analyzed and PhytoCollagen was shown to be as effective in improving skin hydration as animal collagen (Figure 2).

In summary, PhytoCollagen is an all-natural, plant-based alternative to animal collagen with similar cosmetic benefits. The powerful anti-ageing and moisturizing properties in combination with the vegan and sustainable source make it the perfect collagen alternative for the modern, conscious cosmetic consumer. **PC**

Lipoid
Kosmetik

Lipoid Kosmetik AG
Sennweidstrasse 44/46,
CH-6312 Steinhausen, Switzerland
Tel: +41 41 748 33 33
E-Mail: info@lipoid-kosmetik.com
Website: www.lipoid-kosmetik.com



Figure 1: Acacia gum is the amber-colored resin exuded from the Acacia tree after injury, it is a natural biopolymer consisting of carbohydrates and proteins and, due to its functional similarities, is referred to as acacia collagen. PhytoCollagen is the cosmetic preparation of acacia collagen combining the cosmetic benefits of collagen with a green, sustainable source.