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# skin | naturally derived chemicals

by Michael Q. Pugliese

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## IN RECENT YEARS, THE DEMAND

for natural, organic and eco-friendly products has grown dramatically. The need for advanced technology has also increased for the companies who make and supply the raw materials used in skin care formulations. New methods have allowed scientists to separate active compounds from plants that are both more active and more specific.

Plants contain hundreds, if not thousands of complex chemicals that serve many functions to help them flourish and survive. Many of the chemicals produced by plants are linked to the ingenious strategies that assist in their growth: supplying water and nutrients, supporting reproduction, and fighting adverse conditions to survive against insects and other flora. We often forget that it is the active compounds produced by these intriguing plants that we are trying to harness. Here we discuss three active ingredients derived from natural sources.

Stem cell technology has been a source of debate and intrigue for many years. Things have not changed much since the explosion of stem cell inclusion in the skin care market. The question many consumers and skin care professionals have is this: Just what are they? Stem cell suppliers provide many different sources of plant stem cells, including edelweiss, gardenia and blue bugle, all of which have been shown to have a positive influence on skin function. Lilac (*Syrina vulgaris*) contains a compound called verbascoside, which can have very powerful anti-acne, anti-inflammatory and anti-fungal properties. The verbascoside is produced from a stem cell culture extract from a single leaf of this growing plant. This certainly

falls into the category of eco-friendly materials, due to the fact that there are no soils consumed, nor agro-chemical byproducts associated with standard farming methods.

Peptides have also joined the limelight as some of the most used and sought-after ingredients in recent years—and with good reason. Peptides can affect any number of skin conditions

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by binding to different receptors—both on and outside of cells, initiating collagen stimulation, suppressing melanocyte activity (skin lightening), inhibiting muscle contraction and many other functions. Unfortunately, because the majority of peptides used today are synthesized or engineered, individuals seeking “green” products may shy away from them. Myoxinol contains a peptide found in hydrolyzed oca (*hibiscus esculentus*) extract. This compound is capable of inhibiting both muscle contraction and oxidation. It is a long-acting compound that provides a wrinkle-reducing effect throughout the day, but is completely reversible after 24 hours. In this regard it is a unique compound among the many cosmetic wrinkle reducers.



Asiatic acid has been used by a number of cosmetic manufactures for its ability to produce collagen, as well as its ability to inhibit the destructive enzyme collagenase. This compound comes from the plant centella asiatica, also known as gotu kola. It is indigenous to many Asian countries and is often used in vegetable glycerine as a way of maintaining “natural” status.

As the market for green products continues to grow, suppliers must continue to generate creative ways to supply active ingredients that conform to standards of safety, comfort and performance. As professionals, we must ask key questions and expand the options to include more green and sustainable ingredients. ■

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