



## SILAB

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# Apiogalacturonan, a Novel Molecule to Fight Against Skin Dehydration

### PRODUCT/SERVICE BACKGROUND INFORMATION

Whether dry, mixed or oily, every skin can be subjected to dehydration, characterized by a lack of water. Indeed, unlike these genetically defined and permanent skin types, dehydration is a reversible condition **influenced by a myriad of external or internal factors**. **Tightness, lack of suppleness, loss of volume, lines and wrinkles then appear.**

**Dehydrated skin** requires molecules with substantial hygroscopic potential to specifically respond to its needs. SILAB paid special attention to **pectins** because of their **capacity to bind water**, a property intimately related to their structure. The **giant duckweed**, used in traditional Chinese medicine for its capacities to promote water metabolism, contains a unique type of pectin: **Apiogalacturonans (APG)**.

### WHAT IS THE COMPANY INTRODUCING TO THE MARKET/INDUSTRY?

In an innovative way, the hygroscopic potential of APG was investigated by **molecular modeling**. Results reveal that APG have **characteristic shell of water** and 23 water molecules in contact with each constitutive residue, unveiling an **incredible hygroscopic potential**, that seems twice higher than hyaluronic acid.

Predictions were then confirmed *in vivo*, using Raman microspectroscopy to follow a labeled molecule of water. APG **take up and retain water deeper and longer in the skin compared to hyaluronic acid**, a “gold standard” molecule for hydration.

By combining molecular modeling and *in vivo* investigations, SILAB evidenced the amazing hygroscopic potential of APG. Not only do these original natural molecules interact with water molecules, but they capture and retain them efficiently and durably into the skin.

### HOW WILL THIS NEW PRODUCT/SERVICE IMPACT THE INDUSTRY (BENEFITS)?

SILAB has beautified the properties of the giant duckweed to develop APIOSKIN® and **authenticated the *S. polyrhiza* species using the molecular barcoding technique.**

Tested in Caucasian and Asian volunteers, APIOSKIN® provided hydration to dehydrated skin, **superficially and in-depth from the *stratum corneum* to the upper dermis**. After 21 days of application, the skin properties are significantly enhanced: **dehydration lines were smoothed, facial**

**volumes were redefined, and complexion radiance was revived.** 100% of the Caucasian volunteers observed their skin to be more hydrated, softer, more comfortable, and more luminous.

**APIOSKIN® is recommended in all plumping skin care at 0.5 - 3.0% in formulations. The active is 99.2% natural in origin (ISO 16128) and compliant with international cosmetic regulations.**