

## DEINOVE INTRODUCES PHYT-N-RESIST®, THE FIRST PURE PHYTOENE FOR SKINCARE

- Deinove scientific platform has designed an exclusive *Deinococcus* fermentation process to deliver the first pure Phytoene for application in the beauty industry;
- Phytoene is a natural antioxidant which cannot be extracted pure from vegetable sources. Precursor of all carotenoids, it has the unique feature of being colorless;
- Deinove has been able to reveal and prove the skin regeneration property of this precious molecule;
- Clinical tests produced outstanding results, especially in terms of wrinkle reduction;
- Deinove will feature this new active ingredient at *In-cosmetics* Global event (Amsterdam, April 17-19). Our team will be on booth K44 and Phyt-N-Resist® will be showcased in the Innovation Zone.



**Montpellier, 10 April 2018 (8:00am CEST)** – DEINOVE (Euronext Growth Paris: ALDEI), a biotech company that discovers, develops, and produces high-value compounds from rare bacteria, notably from the *Deinococcus* genus, is **officially launching its innovative carotenoid intended for use as a cosmetic active ingredient.**

**Phytoene is a colorless carotenoid produced through natural sugars fermentation by *Deinococcus geothermalis*, an extremophile bacterium**

Created by Deinove and consisting of phytoene concentrated in a refined jojoba oil, Phyt-N-Resist® helps fight against skin aging by reducing oxidative stress and accelerating skin repair.

Its efficacy and tolerability have been successfully demonstrated by *in vitro*, *ex vivo* and clinical studies.

Different skin care formulations have been developed, demonstrating ease of formulating and good stability. Thanks to its stability at high temperature, it could also be considered for make-up applications.

Emmanuel PETIOT, CEO of DEINOVE, stated: “We are thrilled to introduce Phyt-N-Resist®, our first innovative carotenoid for cosmetic use. Our teams have done excellent work to complete this project

*and deliver on time our first commercial solution. The preliminary contacts with cosmetic players have been very positive and we look forward to presenting it to the whole industry in Amsterdam next week.”*

Coralie MARTIN, Marketing Director, added: *“Nature teaches us that extraordinary prodigies can be accomplished with the collaboration of smaller organisms. Inspired by life genius and convinced by the potential of symbiosis, we have developed an exclusive platform that relies on extremophile bacteria with extraordinary resilience, to achieve the biosynthesis of precious actives. Phytoene, the colorless precursor of all carotenoids is the first of a new series.”*

## ABOUT PHYT-N-RESIST®

### **A breakthrough in naturally-sourced active ingredients: Deinove bioproduced the 1<sup>st</sup> pure Phytoene**

Nature is a prodigious laboratory, capable of designing highly efficient molecules.

Both skin cells and plants rely on a common substance to protect themselves from oxidative stress: Phytoene, the original precursor of all carotenoids. However, unlike plants, skin cannot synthesize it. Phytoene counts among these essential molecules that need to be brought through external supplementation.

So far there was no way to extract pure Phytoene. None of the available production processes from plants allows the production of pure Phytoene. They provide only a mix of carotenoids, at low concentration, and with varying degrees of stability and colors.

Tapping into the extraordinary resources of biomimeticism and symbiosis, harnessing the potential of *Deinococcus geothermalis*, a UV-resistant extremophile bacterium, Deinove has for the first time ever achieved the bioproduction of pure Phytoene.

### **Phyt-N-Resist®: Extended anti-ageing properties**

Carotenoids are known for their anti-oxidant properties. Phyt-N-Resist® has been successfully tested for its ability to reduce the amount of lipoperoxidation products, appearing after cells exposure to UV radiations. Indeed, phytoene accumulates in cellular membranes to prevent cellular degradation. By protecting membranes lipids from free radicals and peroxidation, Phyt-N-Resist® reduces the harmful effects of oxidation and, ultimately, skin aging.

But Deinove went even further. The company has put in place a systematic screening of its active ingredients across several dimensions. This comprehensive, innovative approach has highlighted a previously untapped feature under the carotenoid family: cell renewal stimulation. Wounded skin is able to regenerate under the action of phytoene.

**These properties were subsequently confirmed by a conclusive clinical study**, demonstrating its beneficial effect on skin firmness, elasticity and radiance. Above all, Phyt-N-Resist® has a significant anti-wrinkles action.

**This makes Phyt-N-Resist® a thorough anti-aging active ingredient for the beauty industry.**

### Key product features

INCI: Simmondsia chinensis (Jojoba) seed oil and C30-45 Olefin

### **China Compliant**

High-performance anti-aging active molecule	<ul style="list-style-type: none"> <li>• Sharper approach to cell anti-oxidant protection</li> <li>• Clinically tested skin regeneration</li> </ul>
Formulation-friendly	<ul style="list-style-type: none"> <li>• Colorless &amp; stable carotenoid</li> <li>• Consistent process and product quality</li> <li>• A concentrated ingredient, low incorporation rate</li> <li>• Easy to formulate</li> </ul>
Rich narrative material	<ul style="list-style-type: none"> <li>• Advanced biotech science</li> <li>• Exclusive patented innovation</li> <li>• Ancient and highly resilient micro-organism surviving in extreme environments</li> <li>• Biomimetic solution</li> <li>• Supplementation of skin natural defenses</li> <li>• Made in France</li> </ul>

### ABOUT DEINOVE

DEINOVE (Euronext Growth Paris: ALDEI) is a biotech company that discovers, develops and produces high added-value compounds from rare microorganisms for use in the fields of health, nutrition and cosmetic markets. To do so, DEINOVE draws on two key assets:

- a unique library of 6,000 rare or unexploited bacterial strains;
- a metabolic and fermentation engineering platform capable of leveraging these natural "micro-factories" to turn them into new industrial standards.

Based in Montpellier, DEINOVE employs approximately 55 employees and has nearly 130 international patents. The Company has been listed on Euronext Growth since April 2010.

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