

# CELLUCAP<sup>™</sup> C

A Multi Functional “Green” Encapsulated  
Ascorbyl Tetraisopalmitate, a Lipophilic Derivative of  
Vitamin C, for Anti-Aging and Skin Brightening



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## CELLUCAP™ C

CelluCap™ C is a highly effective capsule of Ascorbyl Tetraisopalmitate, which helps overcome common formulation challenges associated with Vitamin C. By isolating this oil-soluble Vitamin C derivative, formulations are less likely to show discoloration and deterioration of the raw material. It is as if each micro-dose of Ascorbyl Tetraisopalmitate is delivered in its own airtight packaging.

CelluCap™ C exhibits Tagra's Release on Demand (RND) technology, which releases the Ascorbyl Tetraisopalmitate only upon mechanical application (Fig. 1). The cellulose based shell collapses, releasing the active while breaking down into invisible particles. These particles retain some of the core ingredients, creating an extended delivery for continued efficacy.

### FORMULATION ADVANTAGES

Tagra's unique delivery system ensures optimal isolation of the Ascorbyl Tetraisopalmitate resulting in increase of its stability (Fig. 2), preventing incompatibilities and formulation discoloration. CelluCap™ C appears as a non-agglomerate powder which is easily incorporated into the already made base formulation during the last stage of preparation. The product is compatible with all types of cosmetic formulations, no stabilizers or special equipment required, without any pH limitations. CelluCap™ range complies with all regulatory requirements worldwide.

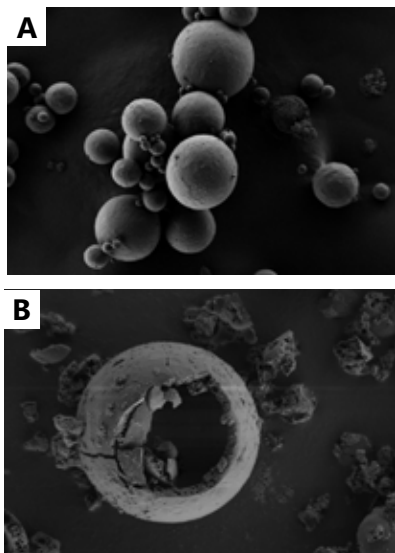
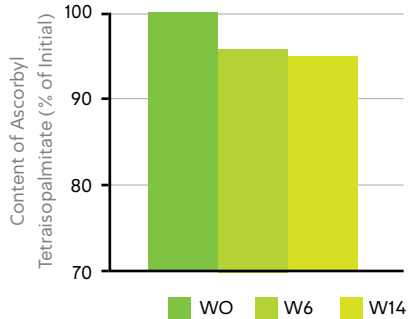


Fig. 1.A. SEM micrograph of Ascorbyl Tetraisopalmitate microcapsules, CelluCap™ C. B. SEM observation demonstrating the Release on Demand™ (RND™) technology by applying mechanical pressure.

\* A lipophilic derivative of Vitamin C, known also as Tetrahexyldecyl ascorbate, which exhibits excellent percutaneous abilities converting into free Vitamin C within the cells

## TECHNICAL INFORMATION

- **INCI Name** Cellulose Acetate Butyrate, Ascorbyl Tetraisopalmitate, Pentaerythrityl Tetra-di-t-butyl Hydroxyhydrocinnamate
- **Appearance** White powder
- **Application** Skin Care, Color cosmetics
- **Recommended Usage Level** 1%-4%
- **Processing** Add at the last stage of formulation preparation, using a paddle mixture, below 40°C degrees
- **Loading Capacity** 25%

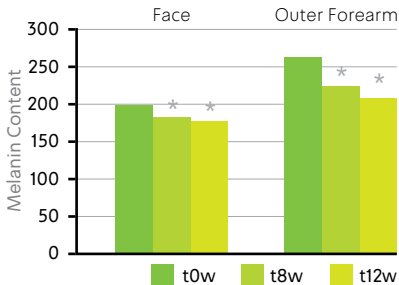


**Figure. 2** Stability of CelluCap™ C incorporated in a topical O/W formulation, after 6 and 14 weeks at 40°C.

## CLINICAL TESTING: INCREASE OF SKIN BRIGHTENING

Twelve Asian females (aged 35–60 years old) treated with formulation containing 3% w/w CelluCap™ C demonstrated increase in skin brightening as indicated by measuring melanin levels and ITA° angle. Cream was applied twice daily on face and on both outer forearms. Non-treated areas served as a baseline (t0w).

### DECREASE OF MELANIN CONTENT



\* P<0.05 as compared to baseline

### INCREASE OF SKIN WHITENING INDEX



# CELLUCAP™ C: SIGNIFICANT WRINKLE REDUCTION

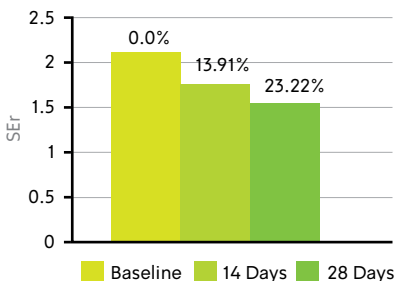
The anti-aging effect of 2% w/w CelluCap™ C resulted in an average 23.22% reduction in skin roughness, as tested on five female volunteers treated with O/W formulation.

## CLINICAL EVALUATION: 14 AND 28 DAYS



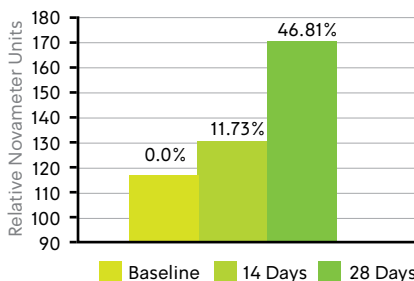
## CELLUCAP™ C SMOOTHS SKIN AND IMPROVES MOISTURIZATION

### SIGNIFICANT ROUGHNESS REDUCTION



Surface evaluation of living skin via Visioscan demonstrates a decrease in SER parameter associated with reduction in depth fine lines and wrinkles.

### SIGNIFICANTLY IMPROVED SKIN MOISTURIZATION



A relative measure of the retained water content of the skin as function of skins dielectric value.

For more information and samples please contact: [info@tagra.com](mailto:info@tagra.com)