

# Distinctive® Phytostem Centella

INCI: Glycerin, Centella asiatica Meristem Cell Culture, Xanthan Gum

October 19, 2010 rev.

## Plant Tissue Culturing

In recent years, researchers have successfully developed active ingredients through *plant tissue culturing*. Many medicinal, nutritional and cosmetic active ingredients have been enhanced through this technology.

**Resources of Nature**, in partnership with global leaders in this field, can now selectively harvest cells from a plant, allowing the utilization of even the most rare plant species without harm. These cells are specially cultivated to generate cultures rich in plant stem cells and complex compounds. These specifically designed plant cell cultures act as nature-made liposomes and are fully compliant with the skin, perfect for delivering their contents of powerful antioxidants and cell regenerating molecules.

Up until recently, harvesting these highly active cells had been extremely difficult and expensive. Through advances in the most specialized processing technologies, they are now available in quantities feasible for commercialization for cosmetic applications as "**Distinctive® Phytostem Cell Ingredients**".

Compared to standard botanical extraction methods, this highly sustainable, eco-friendly technology provides higher purity products with up to 1000 times the active molecule concentrations, and because of their highly controlled production techniques, Distinctive® Phytostem Cell Ingredients meet and exceed Certified Organic and Bio-Eco Cosmesi guidelines.



**C**entella asiatica, an aquatic plant commonly referred to Gotu Kola or Indian Pennywort, has been used as a medicinal herb for thousands of years in India, China and Indonesia. Centella is considered an adaptogen, or plant extract proposed to increase the body's resistance to stress and has been used topically to treat skin disorders, enhance healing of wounds, improve circulation, treat burns and scars and clear up skin infections.

**Distinctive® Phytostem Centella** concentrates the healing properties of centella. Using Resources of Nature's advanced plant tissue culturing technology, this high-purity, nature-designed cocktail of stem cells and potent active ingredients is free of any potential contaminants that may otherwise be absorbed by centella from the marshes where it grows in the wild.

Some of the biological activity of Distinctive® Phytostem Centella (anti-aging, anti-inflammatory, improved circulation) is attributed to the presence of several highly active components of Distinctive® Phytostem Centella, including; 3,5-dicaffeoylquinic acid, 1,3,5-tricaffeoylquinic acid, phytosterols, amino acids, polysaccharides, saponins and triterpenoids.

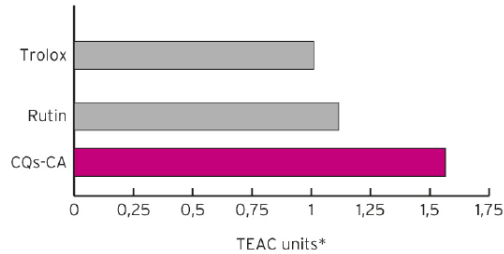
- ◆ Firming / Restructuring
- ◆ Improved circulation
- ◆ Anti-Inflammatory
- ◆ Scar and Stretchmark Reduction
- ◆ Smoothing
- ◆ Toning
- ◆ Wrinkle Reduction
- ◆ Anti-Oxidant

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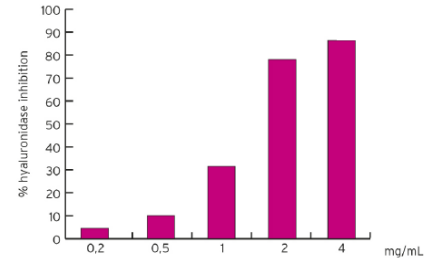
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## ANTI-OXIDANT ACTIVITY (in-vitro)



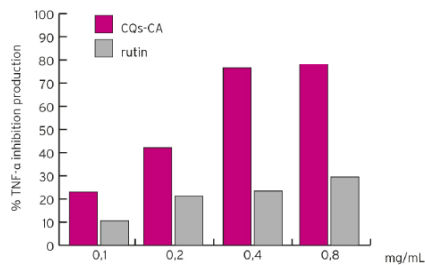
Rich in substances with antioxidant activity higher than that of common natural antioxidant benchmarks (\* TEAC: Trolox Equivalent Antioxidant Capacity)

## ANTI-HYALURONIDASIC ACTIVITY (in-vitro)



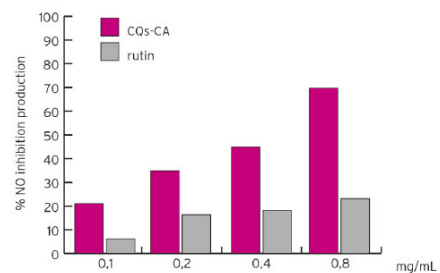
Inhibits hyaluronidase up to 90% thanks to the synergistic effect of its constituents

## ANTI-INFLAMMATORY ACTIVITY (in-vitro)



Useful in the control of inflammation

## ANTI-INFLAMMATORY ACTIVITY (in-vitro)



Useful in the control of blood vessel tone and permeability

## TYPICAL PROPERTIES

Composition  
Appearance  
Aflatoxins  
GMO  
Pesticides  
Microbiology  
Packaging  
Storage  
Shelf Life

## DISTINCTIVE® PHYTOSTEM CENTELLA

Centella asiatica Cell Cultures 20%, Glycerin 80%, Xanthan gum 0.3%  
Beige liquid  
Absent  
Absent  
Absent  
Total microbial count: Bacteria < 100 UFC/g  
1 kg  
Store the product in the original, well closed container, in a cool, dry area and protected from light  
12 months

## FORMULATION GUIDELINES

Use Level: 0.5 – 5.0 %  
Compatible with O/W emulsions, serum. Introduce during the cooling phase. pH ≤ 6

## SAFETY

Safety tested for both cosmetic and nutritional applications

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