

# Distinctive® Phytostem Echinacea

INCI: Glycerin, Echinacea angustifolia 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.



**E**chinacea angustifolia, also known as elk root or purple coneflower is a drought-tolerant perennial herb, native to North America. Early Native Americans discovered its medicinal benefits long ago by observing elk seeking out the plants and consuming them when sick or wounded. Since then, echinacea has a long history of use to help stimulate the immune system, suppress infection and help control pain and inflammation.

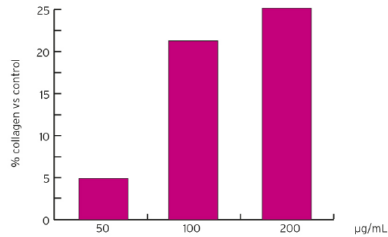
Scientists have identified specific chemical constituents contributing to the health effects of echinacea including phytosterols, amino acids, polysaccharides, alkylamides, phenylpropanoids, phenolic derivatives and substances like echinacoside, chlorogenic acid, cynarin, 3,5-dicaffeoylquinic acid. **Distinctive® Phytostem Echinacea** is specifically cultured to maximize the production of these stress fighting and immunity boosting agents along with regenerating and healing stem cells to sooth and revitalize dull, stressed skin.

- ◆ Healing / Restructuring
- ◆ Hydrating
- ◆ Anti-Oxidant
- ◆ Anti-Aging
- ◆ Soothing
- ◆ Anti-Stress
- ◆ Revitalizing
- ◆ Anti-Inflammatory
- ◆ Anti-Bacterial
- ◆ Free Radical Scavenging

# Distinctive® Phytostem Echinacea

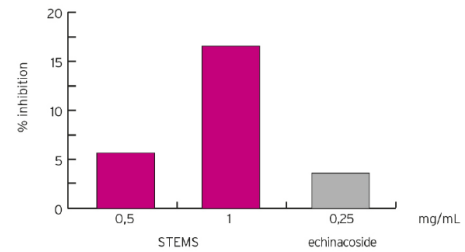
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## COLLAGEN STIMULATING ACTIVITY



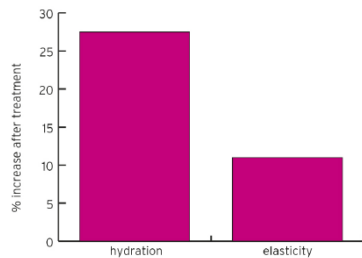
Stimulates the synthesis of new collagen on in vitro cultures of human fibroblasts

## ANTI-COLLAGENASIC ACTIVITY



Inhibits collagenase more efficaciously than purified echinacoside

## CLINICAL EVALUATION



Increases hydration by 28% and elasticity by 11%

- ◆ 1.5% tested in face mask
- ◆ 20 minute application
- ◆ Evaluation of skin hydration (capacitance) and elasticity (impedance) before and after the treatment

## TYPICAL PROPERTIES

Composition  
Appearance  
Aflatoxins  
GMO  
Pesticides  
Microbiology  
Packaging  
Storage  
Shelf Life

## DISTINCTIVE® PHYTOSTEM ECHINACEA

Echinacea angustifolia 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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