

ABS Ginger Mint Extract Cooling PF



Refresh Sensory
Aesthetic Enhancement Cooling Sensation
Consumer Perceivable Benefit
Revitalize

BACKGROUND

Summers seem warmer now than ever. On those long, hot days there is nothing better than a cool and refreshing drink to invigorate and revitalize the senses. The same holds true for our skin, which can also benefit from a little cool down. With that in mind Active Concepts developed **AC Ginger Mint Extract Cooling PF**, a unique blend of ginger root and peppermint leaf extracts that is designed to provide a pleasant cooling effect which can help our skin feel refreshed regardless of the temperature. It will also deliver a sensory benefit to topical applications. Using a sensory component in cosmetics will allow the consumer to perceive instantaneous results to help reinforce the benefits associated with a finished product.

SCIENCE

Peppermint is a flowering plant that grows throughout Europe and North America. It has been used historically for the treatment of numerous health conditions including common cold symptoms, cramps, headaches and nausea. Now a days, peppermint leaf extract is particularly useful for its excellent stimulating and cooling properties.

Peppermint's cooling properties are attributed to its concentration of menthol, a waxy, crystalline organic compound. Menthol has been shown to activate a cold sensitive receptor called Transient Receptor Potential Cation Channel, subfamily M member 8 (TRPM8). This protein regulates the movement of ions across the membranes of cells. Just like only certain keys can open a lock, only certain stimulants can open the ion channel and access the cell. TRPM8 opens in the presence of cold temperatures and menthol allowing Na⁺ and Ca⁺ ions to enter the cell. The entrance of these cations into the nerve cells changes their electrical charge and also the information that is sent from these cells to the central nervous system thus leading to the perception of cold. For this reason, ingredients containing peppermint are widely used to refresh and cool the skin.

Code Number: 10405PF

INCI Name: Water & Zingiber Officinale (Ginger) Root Extract & Mentha Piperita (Peppermint) Leaf Extract

INCI Status: Conforms

REACH Status: Complies

CAS Number: 7732-18-5 & 84696-15-1 & 84082-70-2

EINECS Number: 231-791-2 & 283-634-2 & 282-015-4

Origin: Botanical

Processing:

- GMO Free
- No Ethoxylation
- No Irradiation
- No Sulphonation

Additives:

- Preservatives: None
- Natural Antimicrobial: Leuconostoc/Radish Root Ferment Filtrate
- Antioxidants: None
- Other additives: None

Solvents Used: Water

Appearance: Amber Liquid

Soluble/ Miscible: Water Soluble
96.6% Biodegradability

Microbial Count: <100 CFU/g,
No Pathogens

Suggested Use Levels: 1.0 - 10.0%

Suggested Applications:
Sensory, Cooling

Benefits of AC Ginger Mint Extract Cooling PF:

- Aesthetic Enhancement
- Cooling Sensation
- Anti-inflammatory
- Antioxidant

ABS Ginger Mint Extract Cooling

The other component of this unique blend is Ginger Root Extract. Ginger is an exotic plant with highly aromatic flowers. It originated in tropical Asia where it was used not only as a spice for culinary purposes but as an infallible remedy for colds, digestive problems and motion sickness.

Ginger's main active components are volatile oils and phenolic compounds, which give the root its distinct flavor and aroma. However [6]-Gingerol is the major phenolic ketone found in ginger root, for this reason most of the research conducted on ginger is focused on gingerols.

Gingerols have been shown to exhibit dose-dependent anti-inflammatory activity. This phytochemical acts by inhibiting UV-B induced expression and transactivation of COX-2, an enzyme responsible for inflammation and pain. As a result, when applied to the skin, this phytochemical can reduce redness, puffiness and itchiness. A study conducted by the department of Dermato-Immunology of the Catholic University of South Korea showed that [6]-Gingerol also helped prevent UVB-induced ROS formation which suggests that this compound may also provide antioxidant benefits. There are, of course, other benefits to using ginger in cosmetics. The rhizome can also help revive and renew the skin which is why we were interested in adding it to our product. This botanical is also a favorite ingredient amongst consumers as it is considered to be both familiar and exotic.

BENEFITS

ABS Ginger Mint Extract Cooling PF was specifically designed to provide a lovely cooling sensation on the skin. This unique ingredient is ideal for use in cosmetic applications designed to revitalize and refresh the skin, especially after a warm day in the sun or as a morning pick-me-up.

EFFICACY

ABS Ginger Mint Extract Cooling PF's effectiveness was determined by an *in-vivo* sensory study that was conducted on 15 volunteers between the ages of 24 and 52 years old. In the study the subjects applied a lotion containing 5.0% **ACB Ginger Mint Extract Cooling PF** on their forearms and rubbed it in for 5 seconds. Afterwards the volunteers were asked to rate the cooling sensation that they perceived according to the parameters shown in Table 1. Based on our results, we can confirm that **ABS Ginger Mint Extract Cooling PF** is capable of providing an immediate perceivable cooling benefit on the skin.

Parameter	Number of Volunteers
Immediate Perceivable Effect	16
Perceivable Effect within 1 min.	3
Perceivable Effect within 4-5 min.	1

Table 1. Results of Sensory Assessment of Cooling on the Volar Forearm

Interleukin-6 ELISA was conducted to assess the changes in IL-6 levels in **ABS Ginger Mint Extract Cooling PF**-treated in-vitro cultured human dermal fibroblasts. As shown in Figure 2, this product exhibited anti-inflammatory effects on LPS-treated fibroblasts. This decrease in IL-6 production indicates a reduced inflammatory environment which could decrease the signs of aging and reduce the formation of fine lines and wrinkles. The data suggests that this product enhances soothing and anti-aging properties at normal use concentrations.

ABS Ginger Mint Extract Cooling

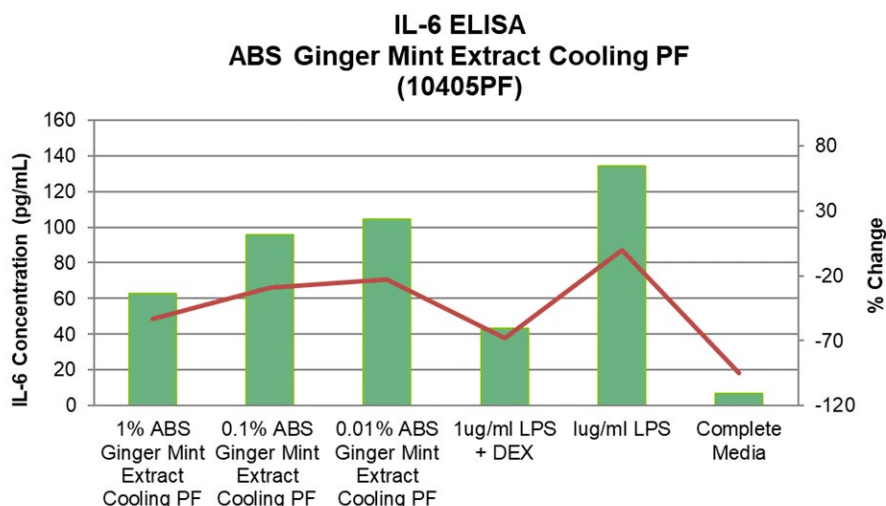


Figure 2. Product-treated fibroblasts IL-6 concentrations and percent change..

An ORAC Assay was conducted to evaluate the ability of **ABS Ginger Mint Extract Cooling PF** to combat oxidative stress. This assay is based upon the effect of peroxy radicals generated from the thermal decomposition of 2,2'-azobis-2-methylpropanimidamide dihydrochloride on the signal intensity from the fluorescent probe, fluorescein, in the presence of an oxygen radical absorbing substance. Results indicate that this product provides intense protection against Reactive Oxygen species comparable to Trolox, an analogue of Vitamin E.

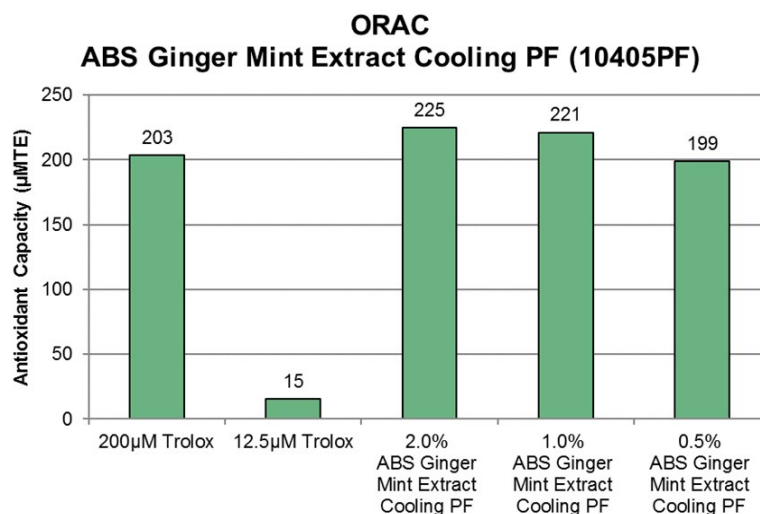


Figure 3. Antioxidant capacities.

References:

- Kim, J. et al. (2007) "[6]-Gingerol prevents UVB-induced ROS production and COX-2 expression in vitro and in vivo" Free Radical Research, Volume 41, Issue 5-2007, pg. 603-614.
- Grzanna, R. et al. (2005) "Ginger – An herbal medicinal product with broad anti-inflammatory actions". Journal of Medicinal Food. Volume 8



Active Concepts, LLC
Lincolnton, NC. USA
www.activeconceptsllc.com
Office: +1 (704) 276 7100
info@activeconceptsllc.com

Active Concepts S.r.l.
Milano ITALY
www.activeconcepts.it
Tel +39 02 90360719
info@activeconcepts.it

Active Concepts LLC, Asia
Kaohsiung, Taiwan
www.activeconceptsllc.com
Tel + 886 73599900
info-asia@activeconceptsllc.com.tw