



Calm Spring

Product Name: Calm Spring

Plant Name: Water horsetail

Scientific name: *Equisetum Fluviatile*

What is Water horsetail?

Horsetail is a perennial plant belonging to the genus *Equisetum*. There are at least 15 different species of *Equisetum* around the world, and “horsetail” is often used to describe the entire group. In general, the above-ground parts of the horsetail plant are used to make [medicine](#).

These plants have two distinctive types of stems. The first stem grows in early spring and looks similar to [asparagus](#), but it’s brown rather than green and has spore-containing cones on top. The mature horsetail herb comes out in the summer with branched, thin, green stems that look like a feathery tail.



Calm Spring

Water horsetail

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Equisetum fluviatile, the water horsetail or swamp horsetail, is a vascular plant that commonly grows in dense colonies along [freshwater shorelines or in shallow water in ponds, swamps, ditches](#), and other sluggish or still waters with mud bottoms.

Water horsetail plant provided habitat for pond life and was used historically for [scouring, sanding and filing](#) because of the high silica content in the stems. Horsetails can absorb heavy metals from soil and are often used in remediation projects involving heavy metal contaminants.



Medicinal benefits and uses of Water horsetail

Calm Spring

Horsetails have an unusual chemistry compared to most other plants. They are rich in silica, contain several alkaloids (including nicotine) and various minerals. The plant is styptic. The barren stems are used, they are most active when fresh but can also be dried and sometimes the ashes of the plant are used. A decoction applied externally will stop the bleeding of wounds and promote healing.



Reference: <https://pfaf.org/user/Plant.aspx?LatinName=Equisetum+fluviatile>

Health Benefits

Calm Spring

- Help improve brittle Nails
- Aids hair growth
- Heals wounds & Relieves burns
- Treats edema
- Improves joint diseases
- Contains natural antimicrobial properties



Reference: <https://draxe.com/nutrition/horsetail/>

in vitro efficacy

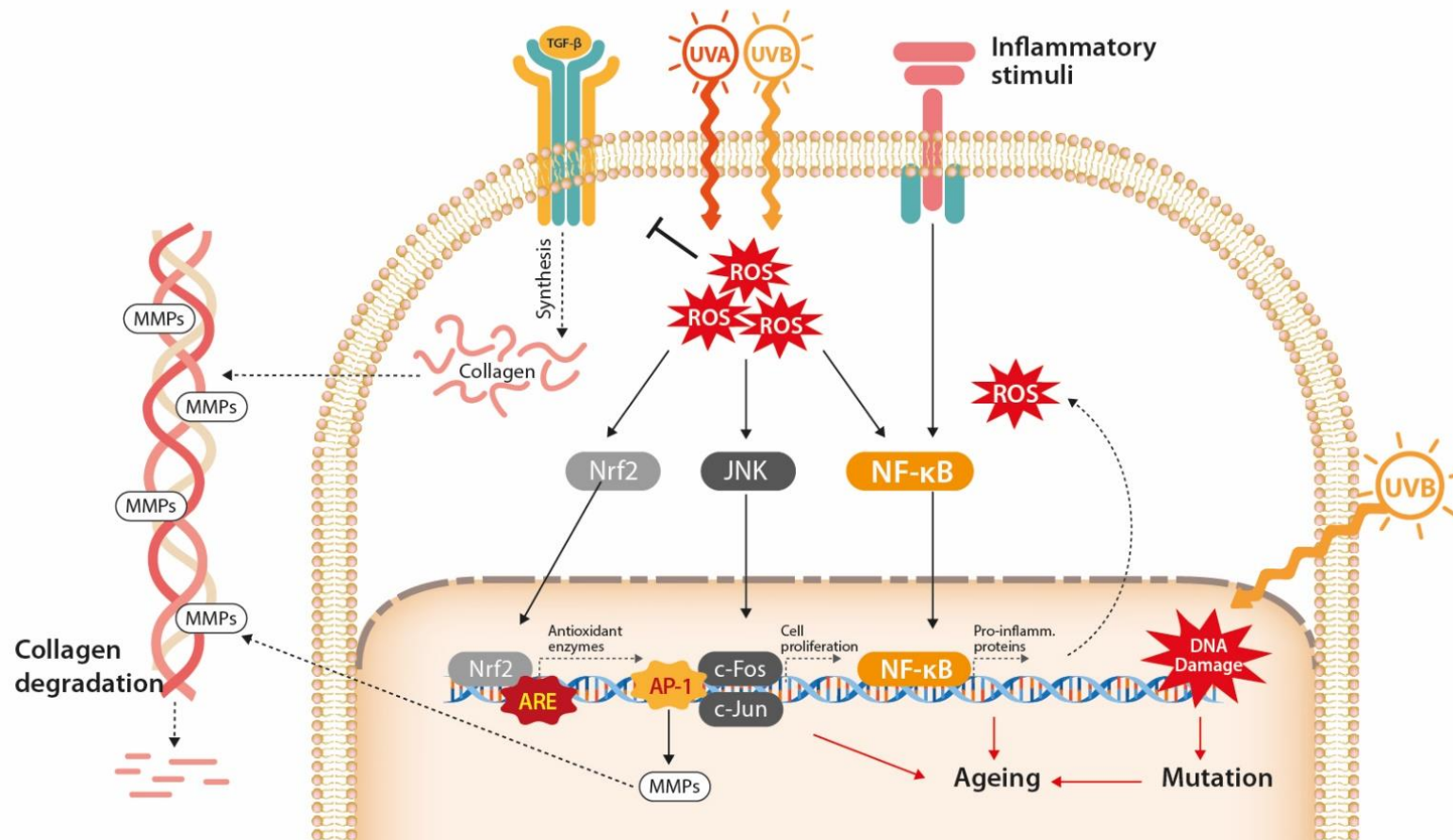
- Antioxidant
- Anti-inflammation
- Skin brightening



Oxidative stress mechanism

Calm Spring

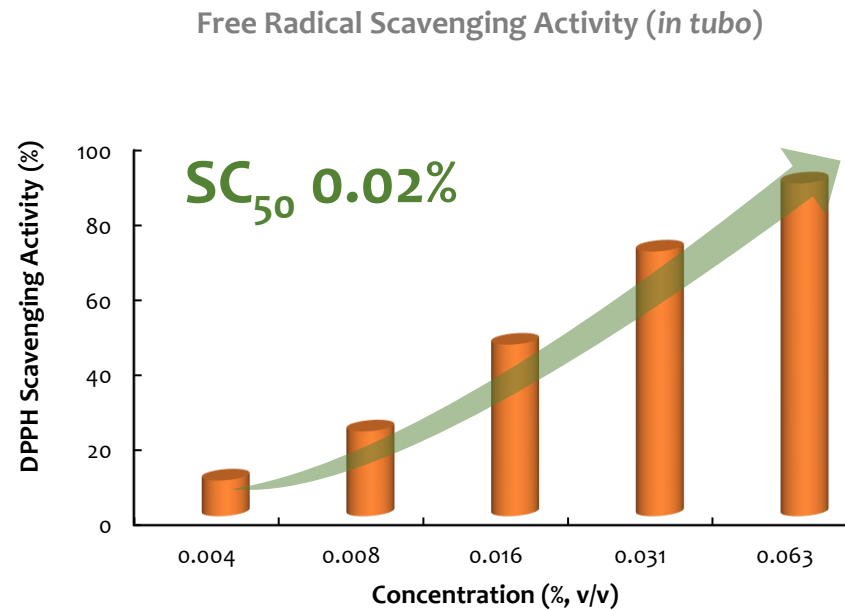
Our skin is under attack from many factors in daily life, such as UV, pollution and smoking. These factors increase the Reactive Oxygen Species (ROS). It causes cellular damage, resulting in skin aging.



Anti-oxidant effects of Calm Spring

Calm Spring

When testing for free radical scavenging activity, oxygen radical absorbance capacity, it was confirmed that as the Calm Spring concentration increases, the scavenging activity also increases along with it.



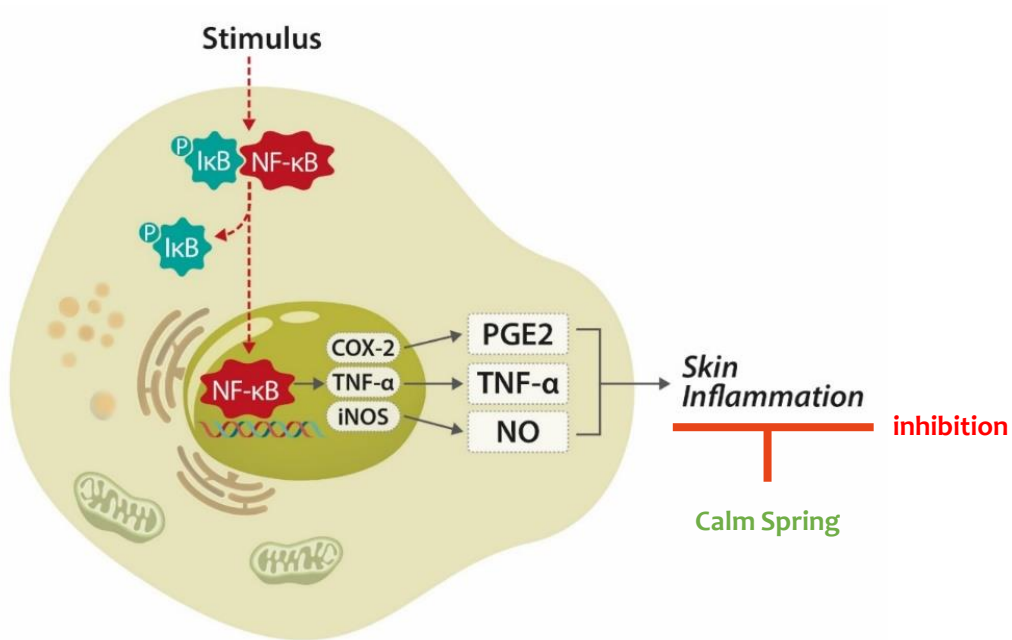
Anti-inflammation effects of Calm Spring

Calm Spring

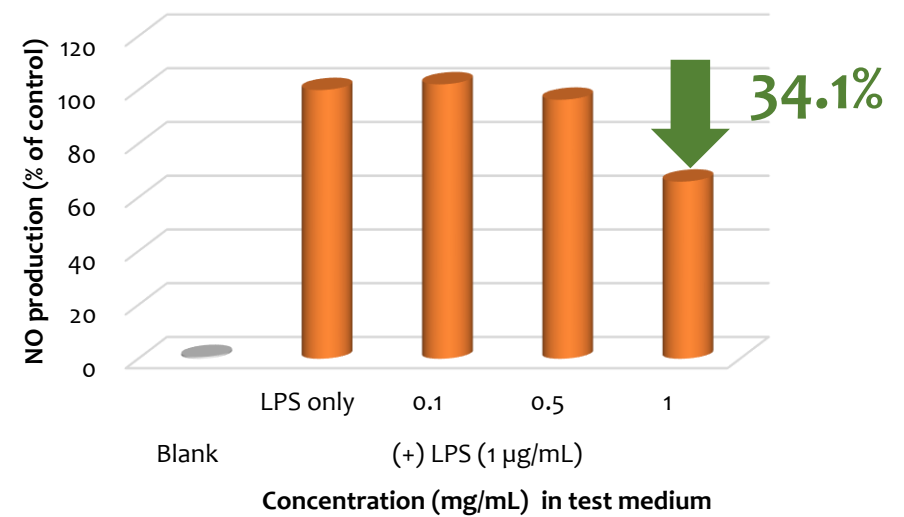
The immune system is responsible for protecting our skin from harmful stimuli and maintaining homeostasis.

In the case of hyperimmune reaction, skin irritation can occur.

According to the efficacy evaluation result, Calm Spring showed anti-inflammatory efficacy by inhibiting Nitric Oxide (NO) synthesis.



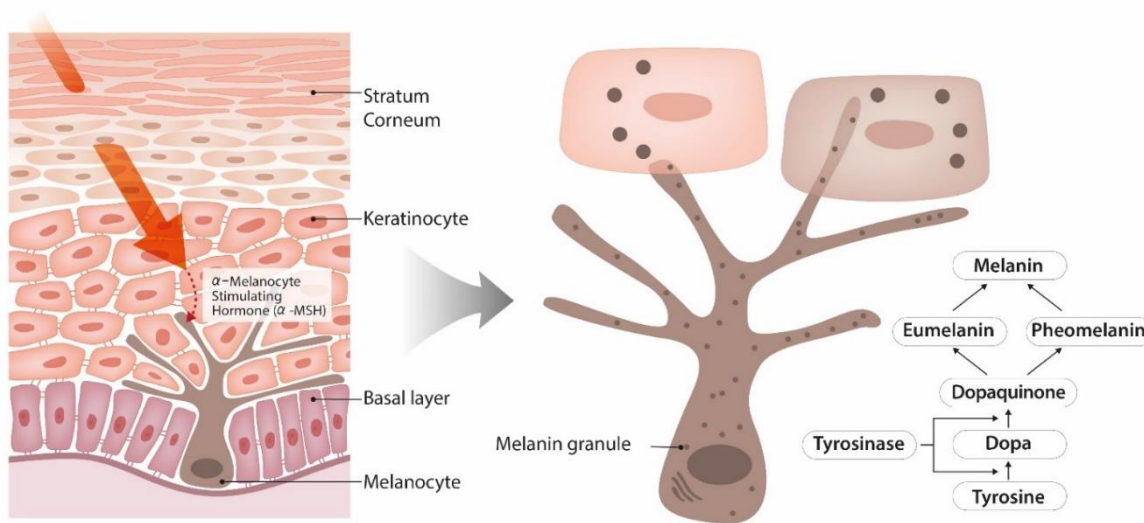
NO Synthesis Inhibition Activity (In vitro)



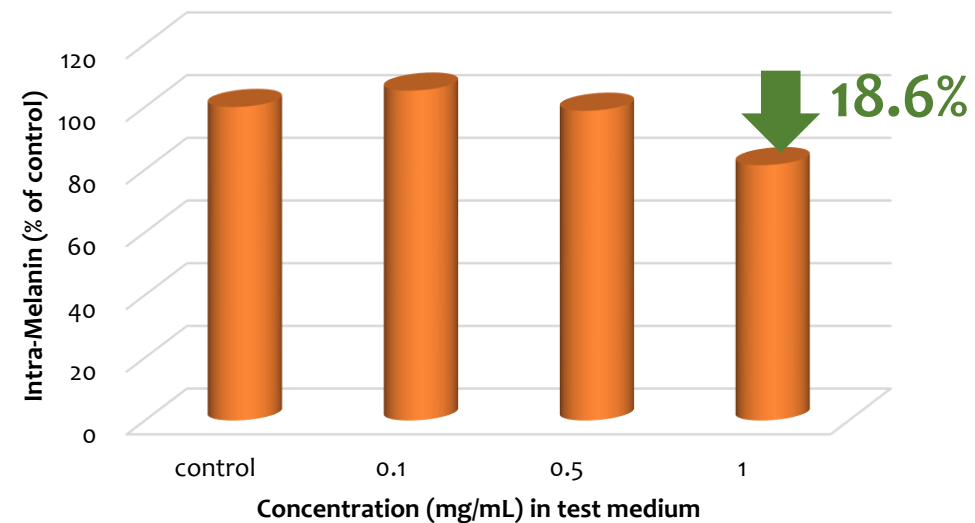
Skin brightening mechanism

Calm Spring

Melanin synthesized from melanocytes is delivered to keratinocytes and accumulates in skin's epidermis, causing changes in skin color. Tyrosinase, which plays an important role in the early stages of the melanogenesis process, converts L-tyrosine to L-DOPA and L-DOPA to DOPA-quinone to biosynthesize melanin.



Intracellular Melanin inhibition Activity (*in vitro*)

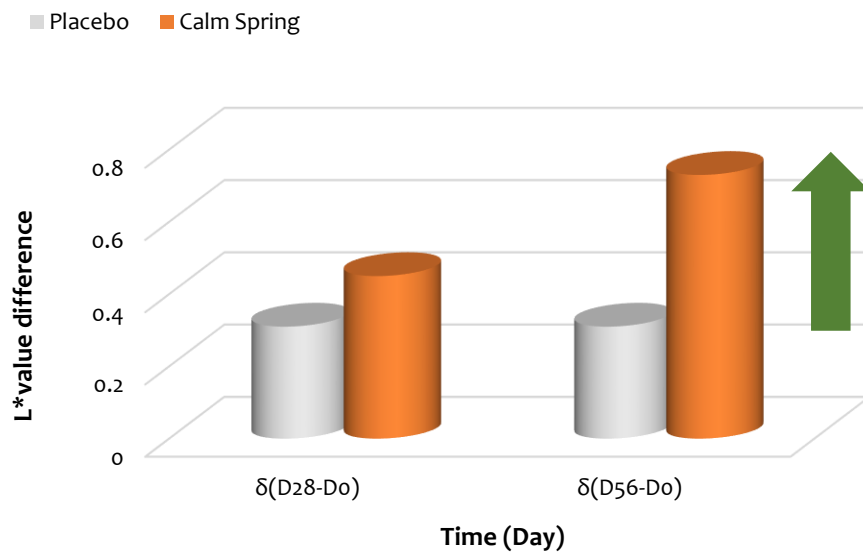


Skin brightening effects of Calm Spring (*in clinical*)

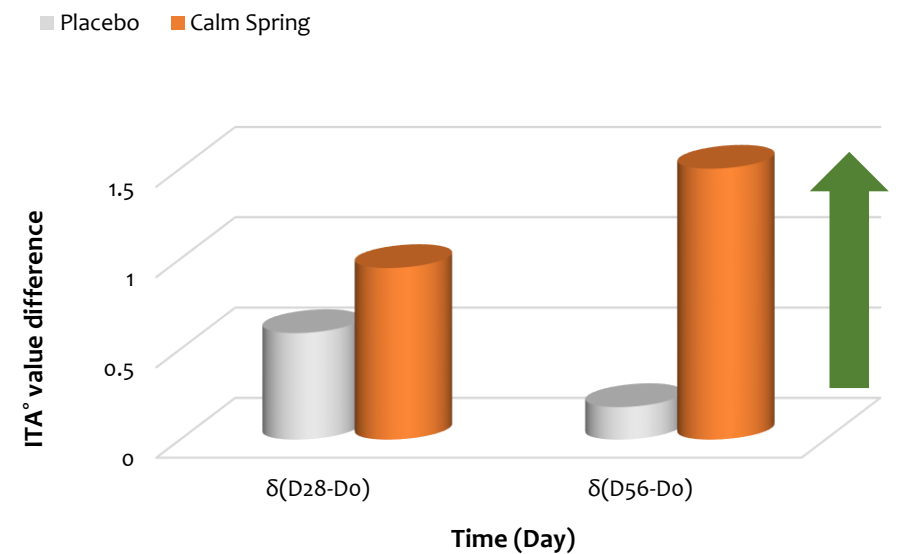
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Calm Spring also showed skin brightening efficacy in clinical trials. 8 weeks after applying a 2% Calm Spring cream on the facial dark spot area, skin brightness and skin tone were improved.

Skin brightness (L* value)



Skin tone (ITA° value)

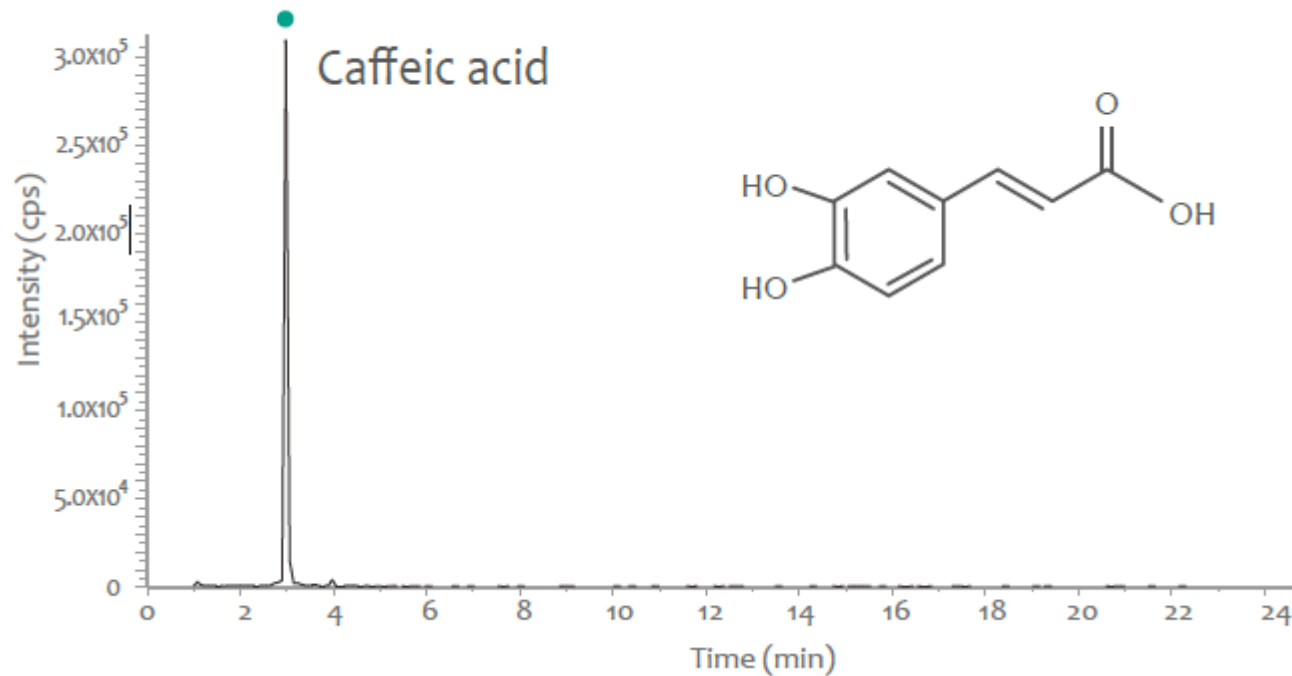


Active compound of Calm Spring

Calm Spring

Through LC-MS/MS Analysis, we found out that Calm Spring contains Caffeic acid, which is a phenolic compound in water horsetail that contributes to its anti-oxidation properties.

LC-MS/MS Analysis



Product information

Calm Spring



Product Name: Calm Spring

INCI name: Equisetum Fluvatile Extract

Dosage: 1-3%

Efficacy: Antioxidant, Anti-inflammation and Skin brightening effect



The Secrets of Caledonia

The Secrets of Caledonia (TSOC) is a supplier of natural cosmetic ingredients inspired by Scottish traditional herbal medicine. Taking advantage of Scotland's biodiversity and working in collaboration with established Scottish herbalists, we aim to provide the most effective and innovative natural ingredients at the highest quality.



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