Valeriactive

Product Name: Valeriactive
Plant Name: Valerian
Scientific name: *Valeriana Officinalis*

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www.tsocaledonia.co.uk

What is Valerian?

- *Valeriana officinalis*, commonly known as valerian, is an herb native to Asia and Europe. It is now also grown in the US, China and other countries.
- The name "valerian" is derived from the Latin verb valere, which means "to be strong" or "to be healthy."
- Flowers from the valerian plant were used to make perfume centuries ago, and the root portion has been used in traditional medicine for at least 2,000 years.
- As a natural herbal ingredient that induces a comfortable and healthy sleep, it is mainly used as a sedative and analgesic, and has been used to relieve stress.
- Valerian root also contains the antioxidant hesperidin and linarin, which appear to have sedative and sleep-enhancing properties.

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Health benefits

Remedy for insomnia

Prescription anxiety drugs

Minimizing hot flashes during menopause

Relieving post-exercise muscle pain and fatigue

Treating headaches, digestive problems

Reference: https://www.verywellhealth.com/what-you-need-to-know-about-valerian-88336

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Use in traditional medicine

- In fact, over 1,800 years ago, the Greek physician Galen had first prescribed valerian for **insomnia.**
- Even during the Middle Ages, people continued to use the herb to treat several conditions.
- It was used as a diuretic, remedy for intestinal as well as menstrual pains and also applied externally to **alleviate pain.**
- Some herbal medicine practitioners also use valerian to **treat exhaustion or fatigue.**
- In addition, the herb has been often recommended for treating **headaches induced by tension, bronchial spasms as well as persistent coughs.**
- An ingredient of valerian called valepotriate possesses **sedative and depressant properties promoting sleep.**
- In effect, valerian is said to lower nervousness by extending the activity of an inhibitory neurotransmitter (substances produced and released by the nerve cells in the brain to communicate with each other).

Reference: https://elmaskincare.com/herbs/herbs_valerian.htm

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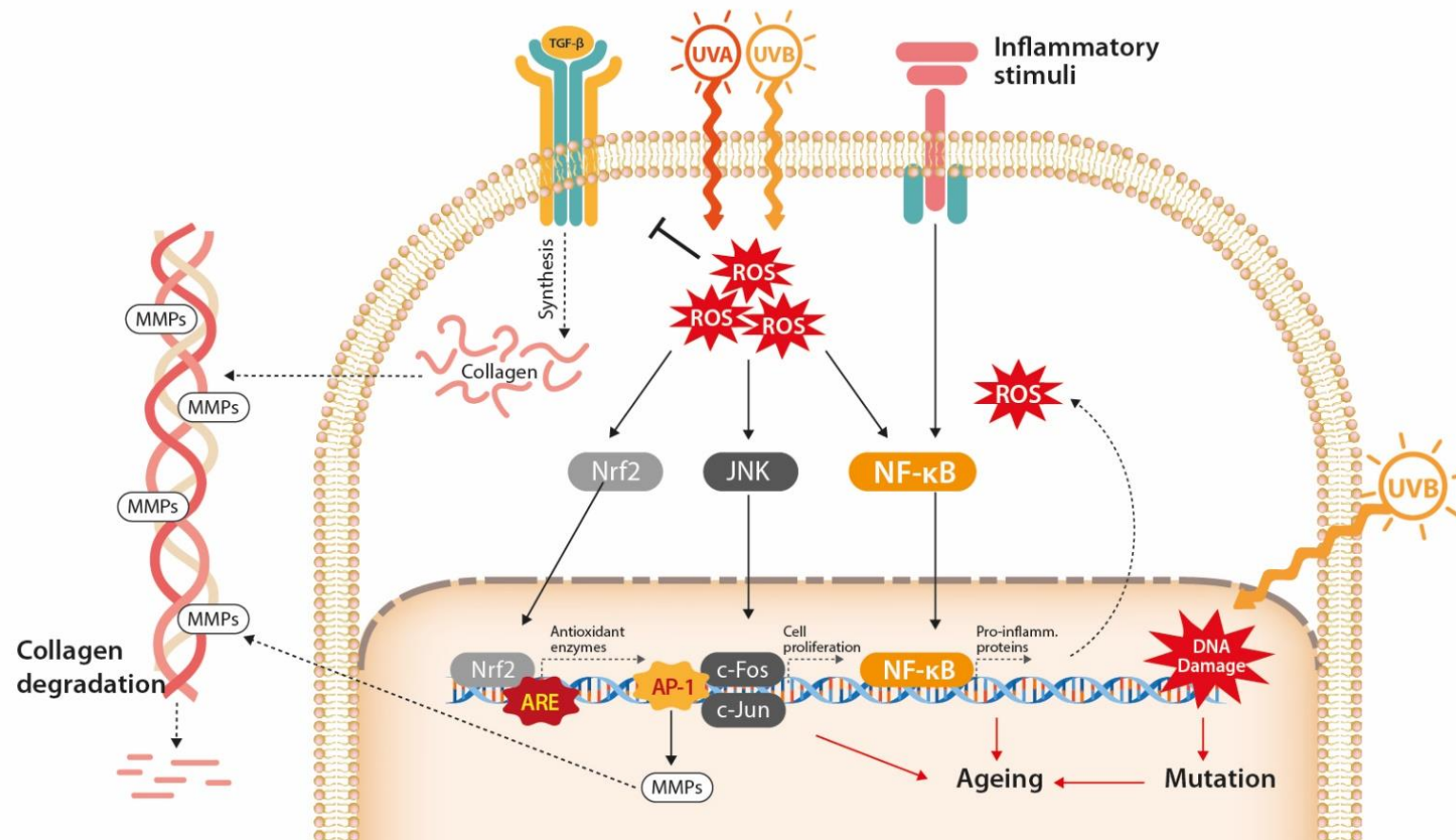
in vitro efficacy

- **Anti-oxidant**

- **Anti-photoaging**

Oxidative stress mechanism

Our skin is under attack from many factors in daily life, such as UV, pollution and stress.
These factors increase the Reactive Oxygen Species (ROS), which plays a major role in the skin aging process.
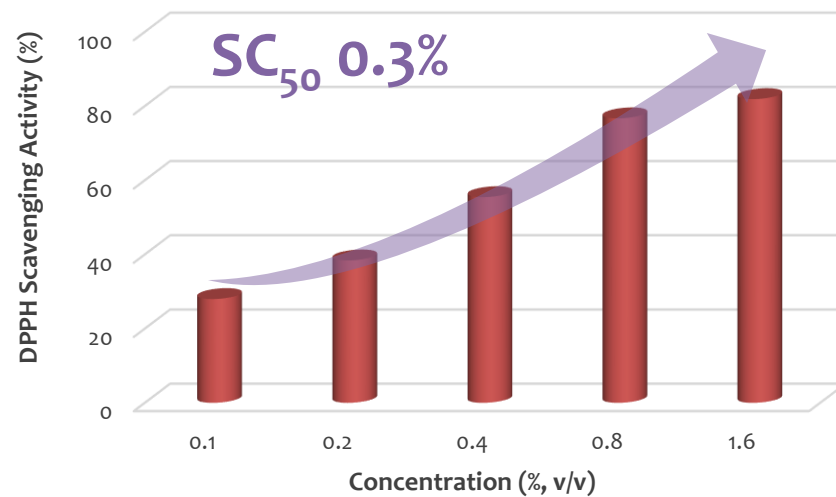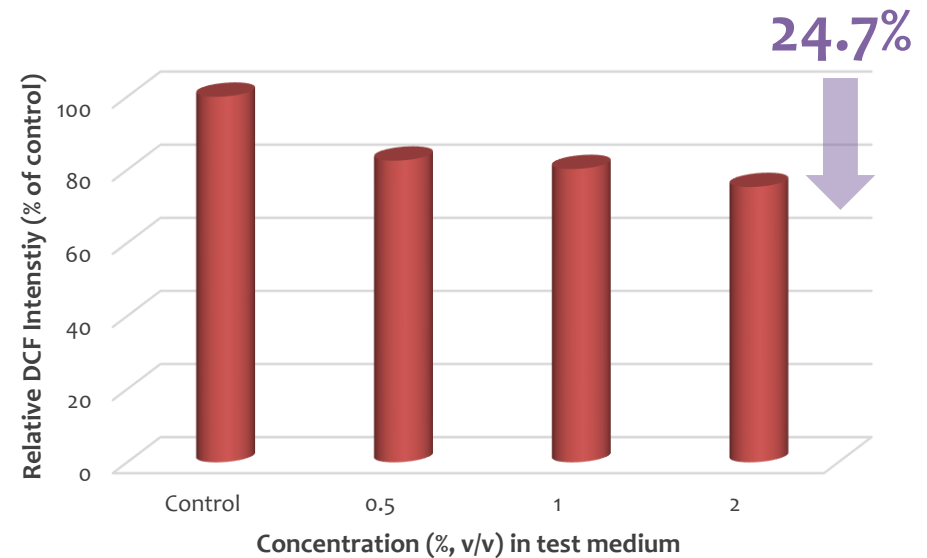
Anti-oxidant effects of Valeriactive

When testing for free radical scavenging activity, it was confirmed that as the Valeriactive concentration increases, the scavenging activity also increases along with it. Valeriactive also found to reduce oxidative stress by 24.7%.c

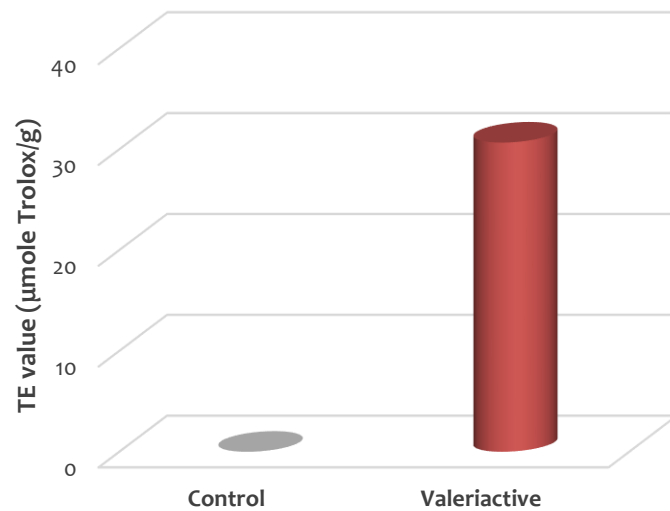**Free Radical Scavenging Activity (*in tubo*)**

ROS Inhibition Activity (*in vitro*)
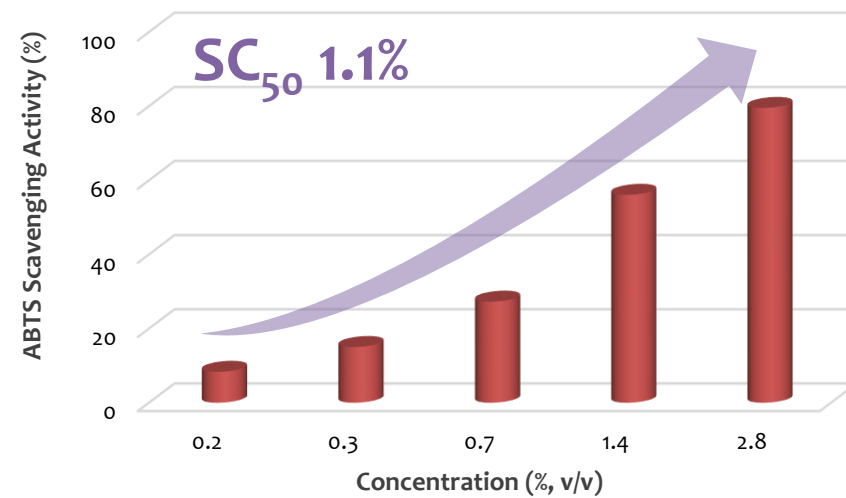
Anti-oxidant effects of Valeriactive

When testing for oxygen radical absorbance capacity and ABTS radical cation scavenging activity, it was confirmed that as the Valeriactive concentration increases, the anti-oxidant activity also increases along with it.
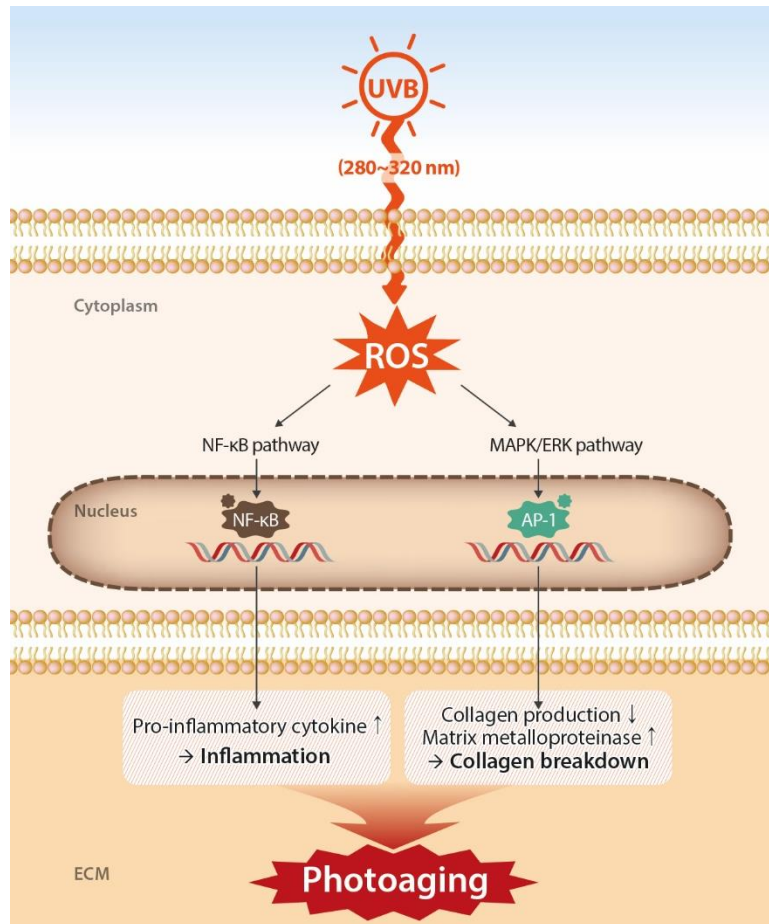
Oxygen Radical Absorbance Capacity (*in tubo*)

ABTS Radical Cation Scavenging Activity (*in tubo*)

SC$_{50}$ 1.1%

Photoaging mechanism

Reactive Oxygen Species (ROS) generated by UV are directly or indirectly related to the mechanisms of skin aging and disease. Excessive exposure to UV causes photochemical production of ROS, which led to chemical oxidation of cellular components in the skin such as lipids, proteins and DNA.

UVB (280~320 nm)

Cytoplasm

ROS

NF-κB pathway

MAPK/ERK pathway

Nucleus

NF-κB

AP-1

Pro-inflammatory cytokine ↑
→ **Inflammation**

Collagen production ↓
Matrix metalloproteinase ↑
→ **Collagen breakdown**

ECM

Photoaging

Beneficial Effects
· UVB exposure enhances **vitamin D production** in the skin.
· UVB activates skin cells to **expand the epidermis.**

UVB

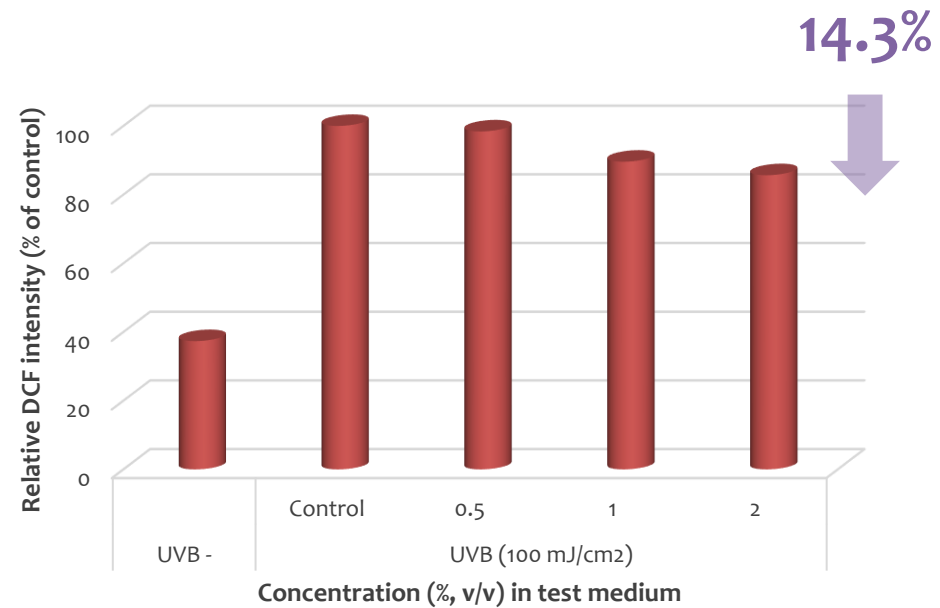**Harmful Effects**
· UVB induces skin **inflammation** and **collagen** breakdown by ROS production.
· UVB causes **photoaging.**

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Anti-photoaging effects of Valeriactive

When testing for UVB-induced ROS inhibition activity, it was confirmed that as the Valeriactive concentration increases, the inhibition activity increases along with it.
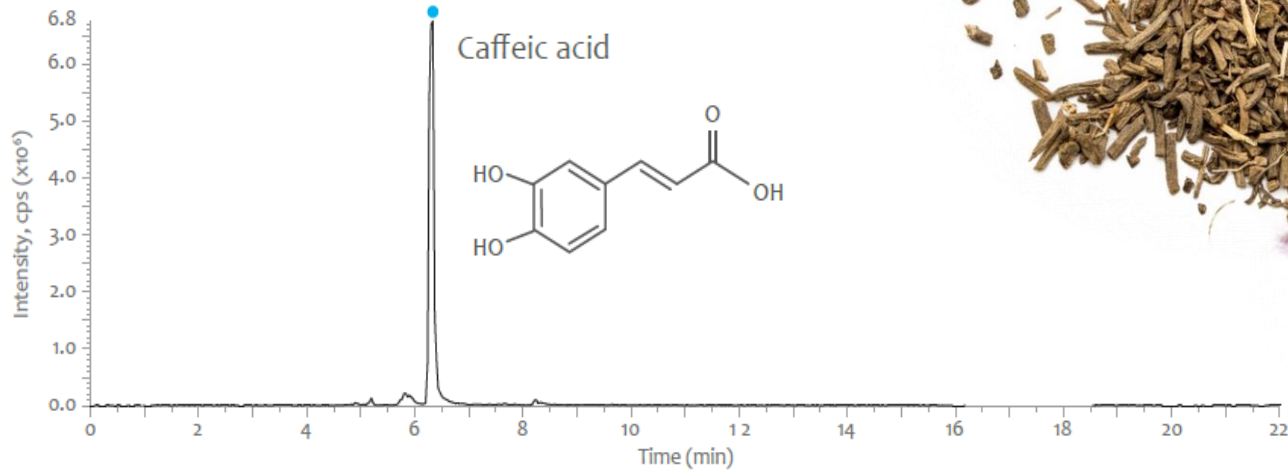
UVB-induced ROS Inhibition Activity (*in vitro*)

14.3%

Relative DCF intensity (% of control) — y-axis (0, 20, 40, 60, 80, 100)

UVB -   Control   0.5   1   2

UVB (100 mJ/cm2)

Concentration (%, v/v) in test medium

Polyphenol found in Valeriactive

Through LC-MS/MS Analysis, we found out that Valeriactive contains Caffeic acid, which is a phenolic compound in valerian root that contributes to its anti-oxidation properties.

Summary

- **Traditional health medicinal herb**

  - **Active compound**

    caffeic acid

    - **Plant efficacy:**

      anti-oxidant, anti-photoaging

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Product information

- **Product Name:** Valeriactive

- **INCI name:** Valeriana Officinalis Rhizome/Root Extract

- **IECIC 2015:** VALERIANA OFFICINALIS RHIZOME/ROOT EXTRACT

- **CAS No.:** 8057-49-6

- **EINECS / ELINCS No.:** 232-501-7

- **Dosage:** 1 - 3%

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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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