



# Meadow Queen

**Product Name:** Meadow Queen

**Plant Name:**  
Meadowsweet

**Scientific name:** *Spiraea ulmaria*

the secrets of

**caledonia**

[www.tsocaledonia.co.uk](http://www.tsocaledonia.co.uk)

# Meadowsweet

Meadow Queen



**Meadowsweet** (*Spiraea ulmaria*), also known as Queen of the Meadow, is an aromatic herb that blooms in summer.

It is a perennial herb and grows in meadows, at the edges of ponds, on riverbanks and in damp woodlands and produces a fragrant, brush-like cluster of small, pink or creamy white flowers.

**Meadowsweet** was traditionally used and known to be effective for pain relief. It was touted many centuries ago as being an excellent remedy for moderate pain.

**Reference:** MEADOWSWEET; USEFUL HERB FOR SKIN PROBLEMS, <https://helenatur.com/en/meadowsweet-useful-herb/>

# Uses of ancient Meadowsweet

Meadow Queen

## Natural Painkiller

Meadowsweet, *Spiraea ulmaria*, was known to be rich in salicylic acid, which is effective for pain relief and was touted many centuries ago as being an excellent remedy for moderate pain, especially pain in a fixed area of the body such as headaches.

## Digestive Health

Meadowsweet can also promote the healing of chronic ulcers and prevent lesions from developing in the stomach. It is used in the treatment of heartburn, hyperacidity, gastritis and peptic ulceration.



Reference: Sweet Smelling Meadowsweet, <https://napiers.net/meadowsweet-the-aspirin-plant.html>

# Harvesting Meadow Queen

The meadowsweet we use in our herbal extracts is responsibly sourced in Scotland by a local forager.

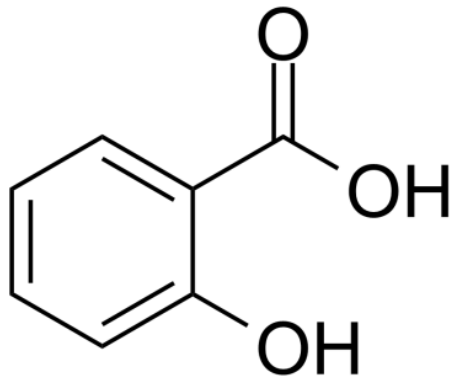
They work in a sustainable way, reducing waste where possible, in line with our company values.

Meadow Queen



# Salicylic acid in Meadowsweet

Meadow Queen



\* Structure of Salicylic acid

- The most notable chemical constituent found in meadowsweet is **salicylic acid**, which is known to **decrease pain**.
- In 1897, when Felix Hoffmann produced acetylsalicylic acid, he used salicin produced from meadowsweet plants. This led to the development of the brand name Aspirin, which was derived from the botanical name at the time for meadowsweet, *Spiraea ulmaria*.
- Meadowsweet's anti-inflammatory effects can be accounted for by the fact that all parts of the plant contain several salicylate compounds, including salicylic acid itself.

## References:

- <https://www.herbalremediesadvice.org/meadowsweet-herb.html>
- <https://pharmaceutical-journal.com/article/opinion/the-anti-inflammatory-properties-of-meadowsweet>

# Meadowsweet on skin

Meadow Queen

Meadowsweet contains a salicylic acid, tannin and phenol compound, which acts as an **anti-inflammation agent for the skin, suppressing itching and rashes and tightening pores.**

Anti-inflammation

Prevention of Itching & Rash

Tightening pores



## Reference:

- Katanić, J., Boroja, T., Mihailović, V., Nikles, S., Pan, S. P., Rosić, G., ... & Bauer, R. (2016). In vitro and in vivo assessment of meadowsweet (*Filipendula ulmaria*) as anti-inflammatory agent. *Journal of ethnopharmacology*, 193, 627-636.
- Klessig, D. F., Tian, M., & Choi, H. W. (2016). Multiple targets of salicylic acid and its derivatives in plants and animals. *Frontiers in Immunology*, 7, 206.

# Multi Efficacy Product

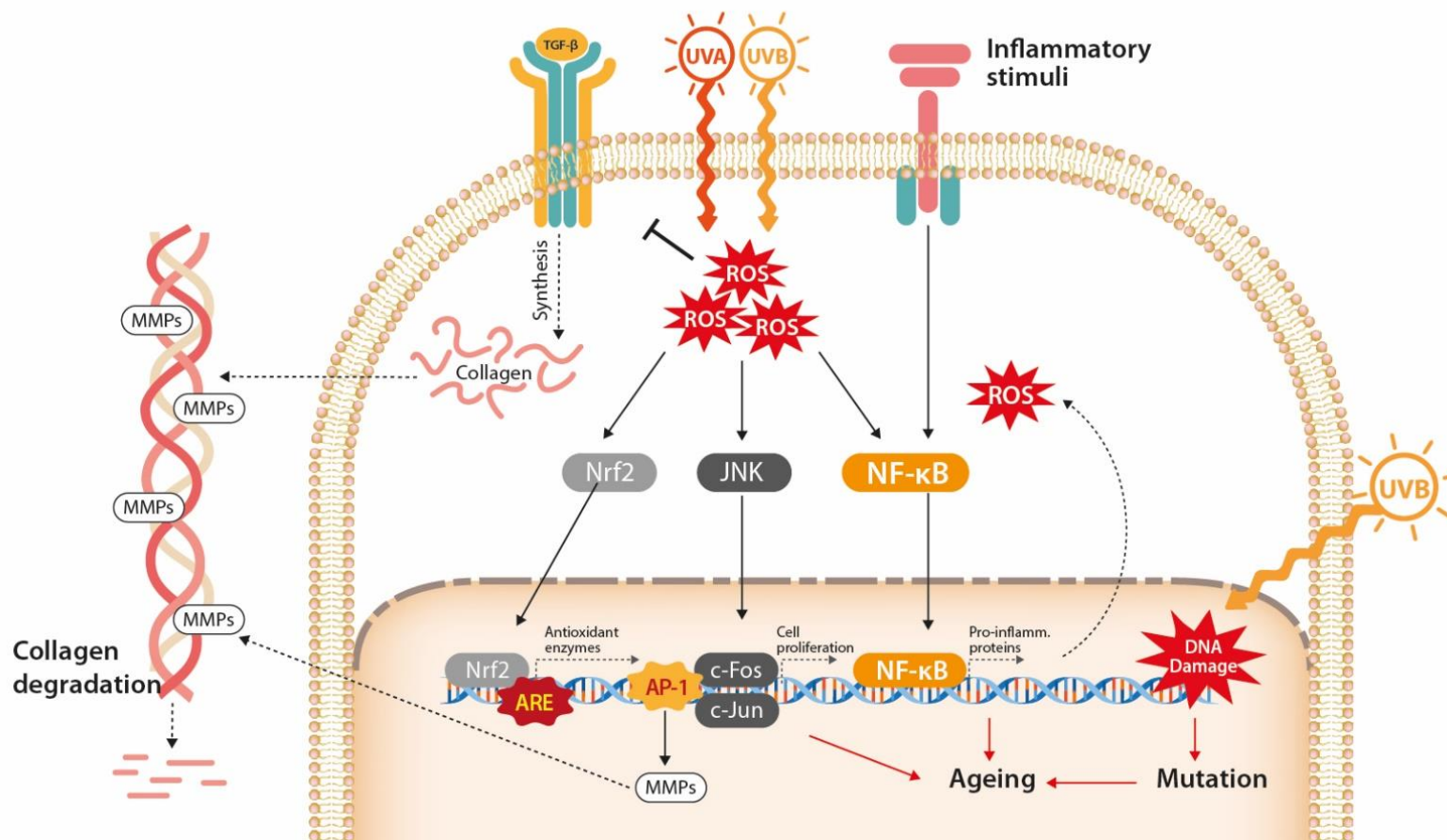
Antioxidant / Anti-inflammatory / Skin brightening /  
Anti-microbial



# Oxidative stress mechanism

Meadow Queen

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.

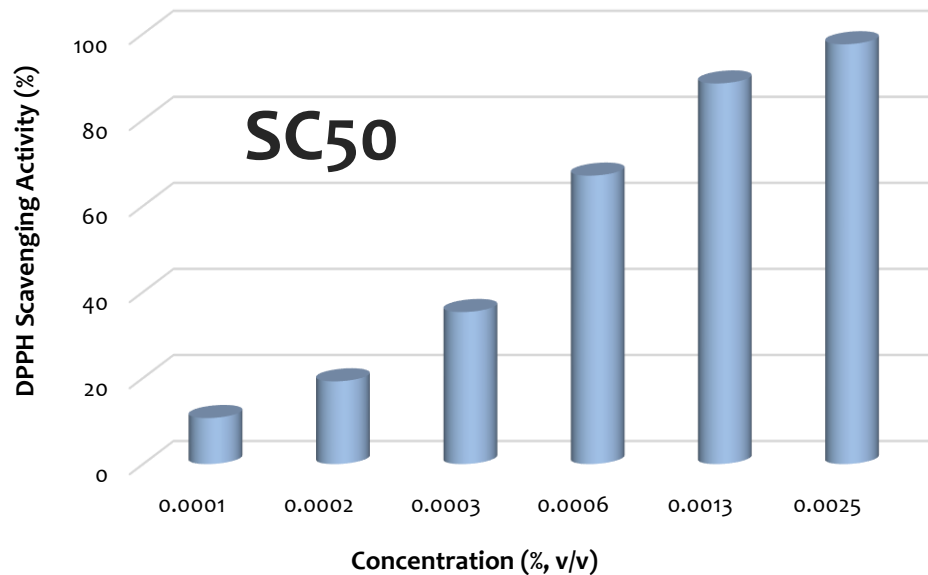


# Antioxidant Effects of Meadow Queen

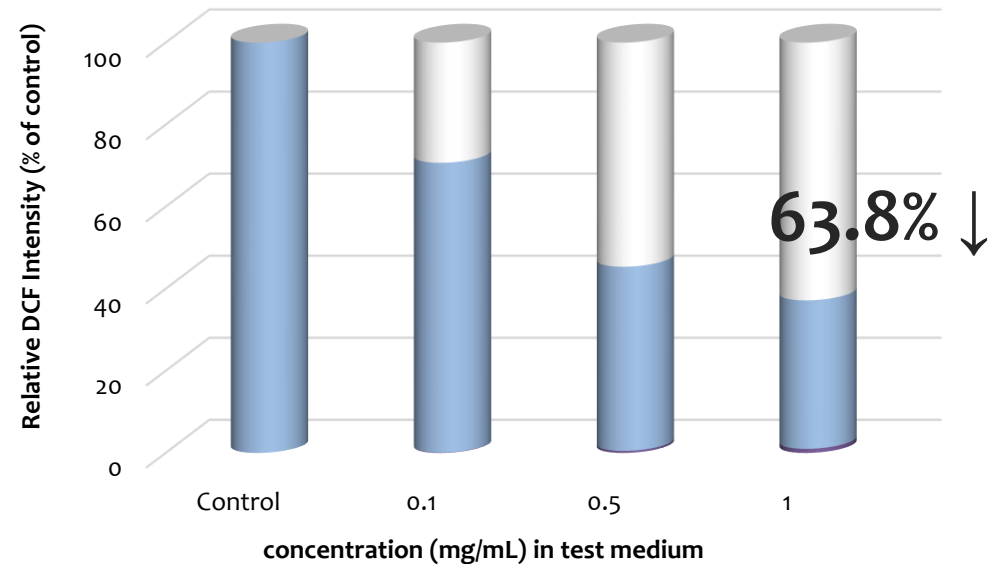
Meadow Queen

When testing for free radical scavenging activity, it was confirmed that as the concentration of the Meadow Queen increases, the inhibition activity also increases along with it. Meadow Queen was also found to reduce oxidative stress by 63.8%.

Free Radical Scavenging Activity (*in tubo*)



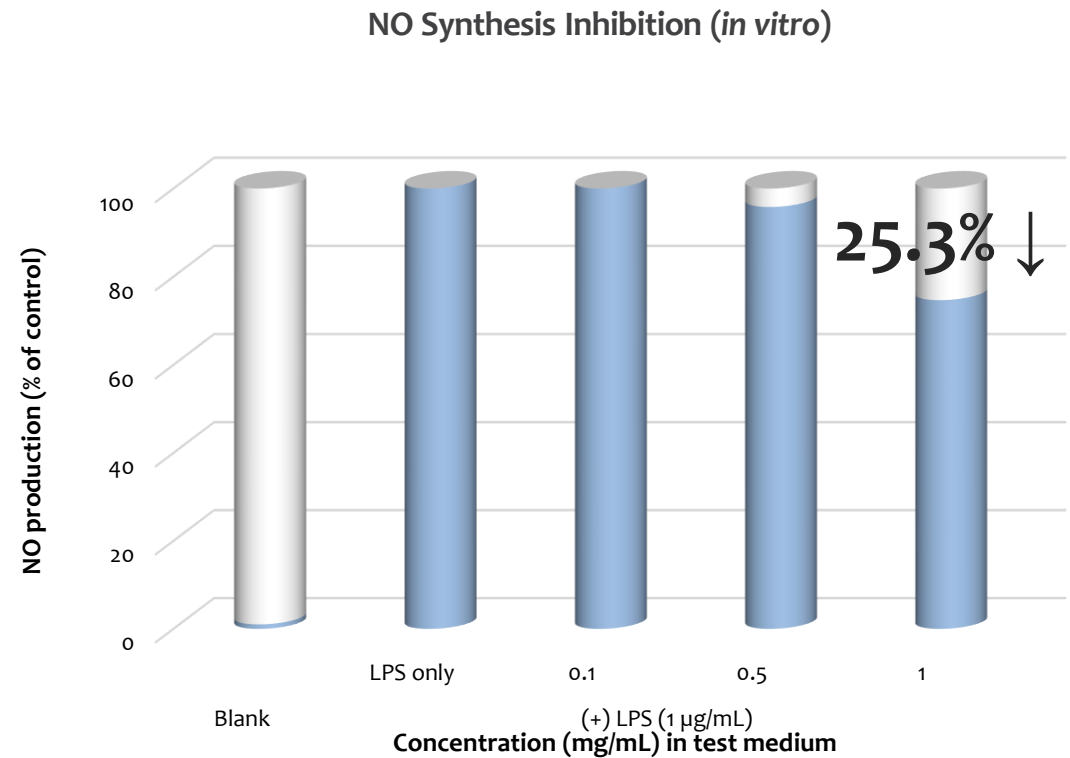
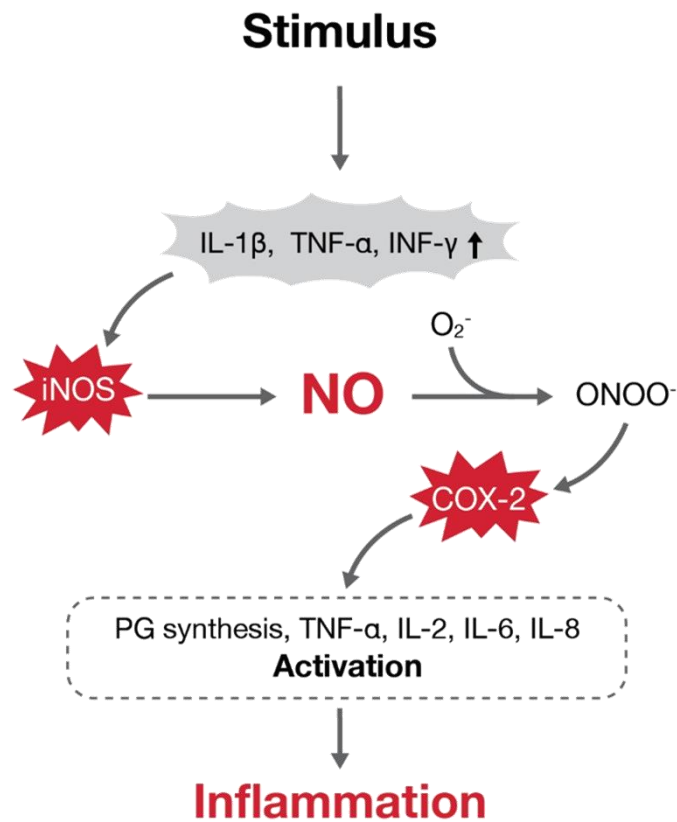
ROS Inhibition Activity (*in vitro*)



# Anti-inflammatory Effects of Meadow Queen

Meadow Queen

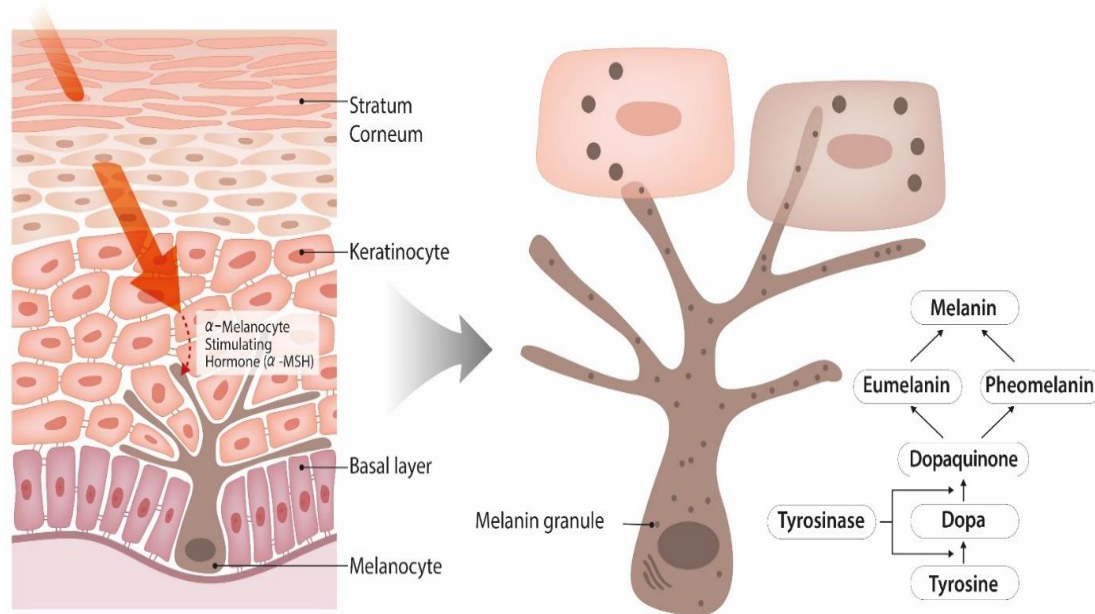
According to efficacy evaluation result, Meadow Queen showed anti-inflammatory efficacy by inhibiting Nitric Oxide (NO) synthesis.



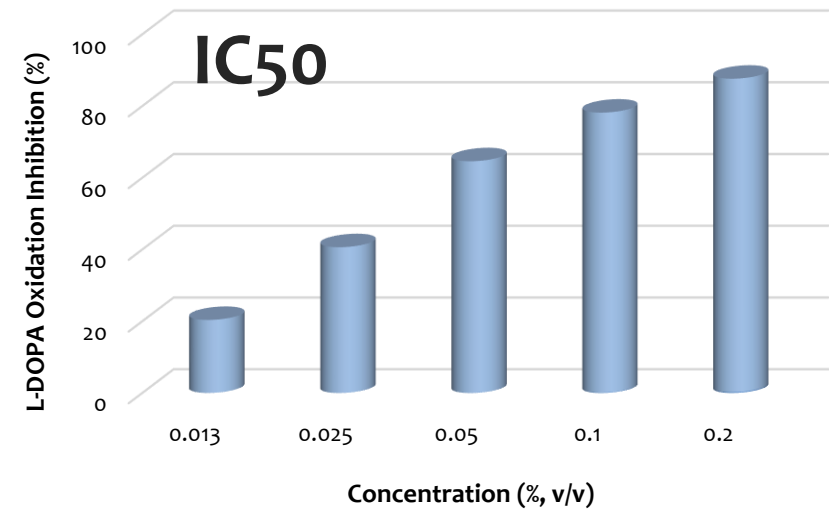
# Skin Brightening Effects of Meadow Queen

Meadow Queen

In the melanin biosynthesis pathway in the human skin, Tyrosinase reacts with DOPA to promote skin melanin synthesis through the production of DOPA-quinone. Meadow Queen have a skin brightening efficacy by inhibiting of L-DOPA oxidation.



L-DOPA Inhibition Activity (*in tubo*)

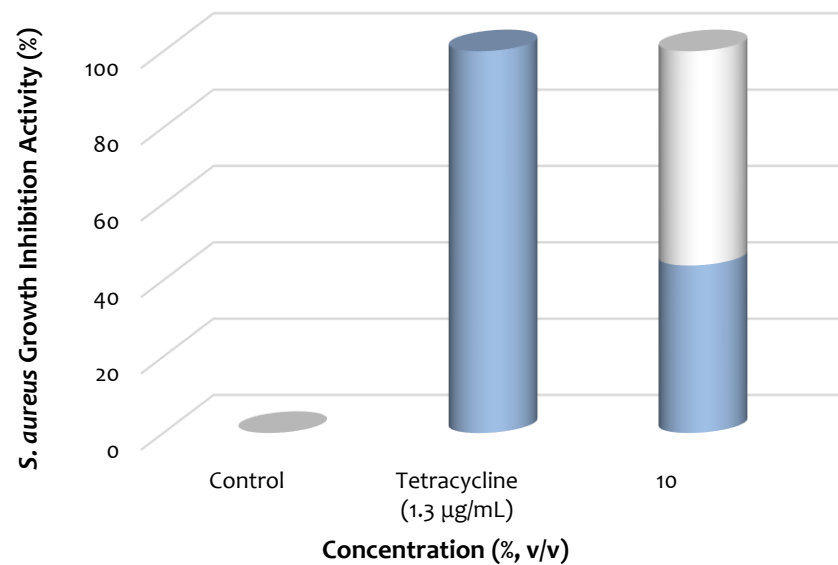


# Anti-microbial Effects of Meadow Queen

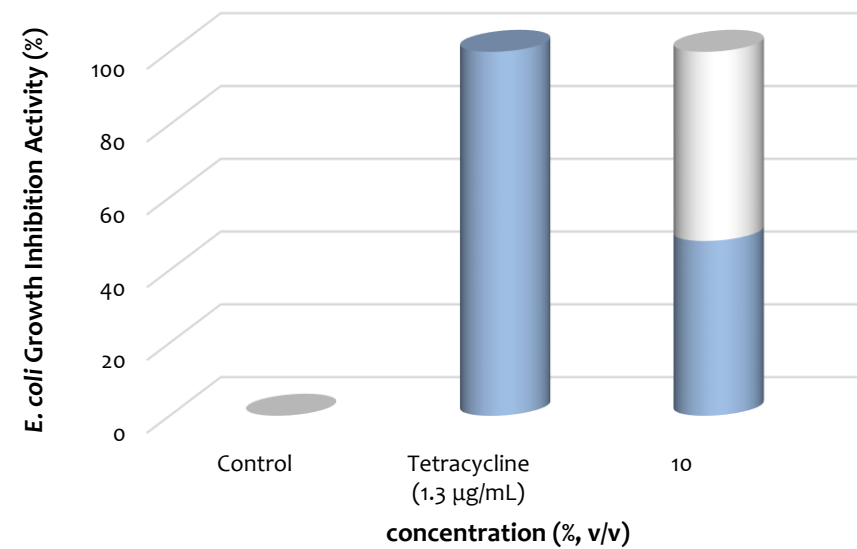
Meadow Queen

Meadow Queen also confirmed its anti-microbial efficacy by inhibiting the growth of *S. aureus* and *E. coli*.

*S. aureus* Growth Inhibition Activity



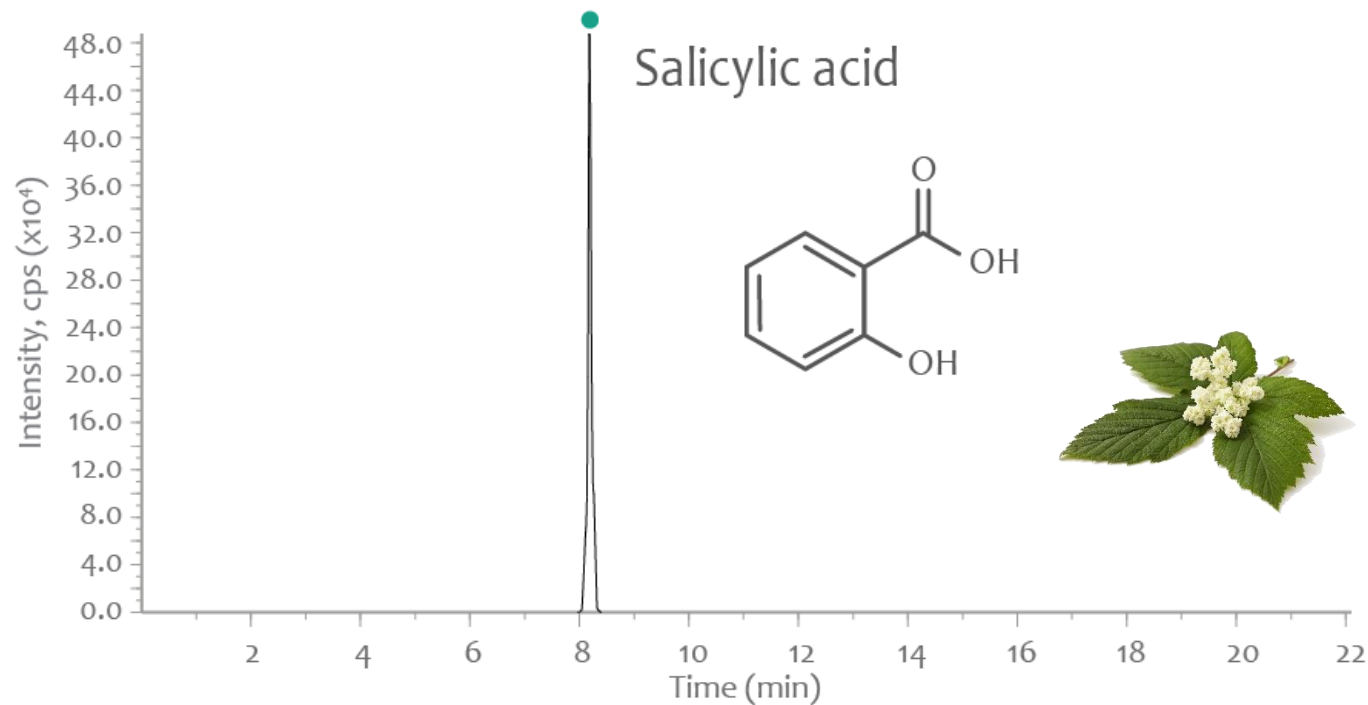
*E. coli* Growth Inhibition Activity



# Active Compound of Meadow Queen

Meadow Queen

Meadow Queen's anti-inflammatory effects can be accounted for by the fact that all parts of the plant contain **salicylic acid**.



## Summary

- Fragrant herb
- Multi-efficacy
- Salicylic acid



## Product Information

- **Product Name** : Meadow Queen
- **INCI name** : Spiraea Ulmaria Flower Extract
- **IECIC 2015**: *Spiraea Ulmaria Flower Extract*
- **Dosage** : 1 – 3%
- **Efficacy** : Anti-oxidant, Anti-inflammation, Skin Brightening and Anti-microbial effects





## 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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