English Lavender

Plant part: Flower
Scientific name: *Lavandula angustifolia*
INCI name: Lavandula Angustifolia (Lavender) Flower Extract
IECIC 2015 name: LAVANDULA ANGUSTIFOLIA (LAVENDER) FLOWER EXTRACT

the secrets of caledonia

English Lavender

Product Name: English Lavender

Plant Name: Lavender

The English word “Lavender” was derived from the Old French word “lavandre”, ultimately from the Latin word “*lavare*” (to wash), referring to the use of infusions of the plants.

Lavender was introduced into England in the 1600s. It is said that Queen Elizabeth I prized a lavender conserve (jam) at her table.

Harvesting
Lavender

Our lavender is grown and harvested from an established English farm.

The farmers are always looking for ways to achieve sustainability and produce as little waste as possible, in line with our company values.

Western herbal medicine uses lavender as a relaxant, antispasmodic, circulatory stimulant, and nervous system tonic.

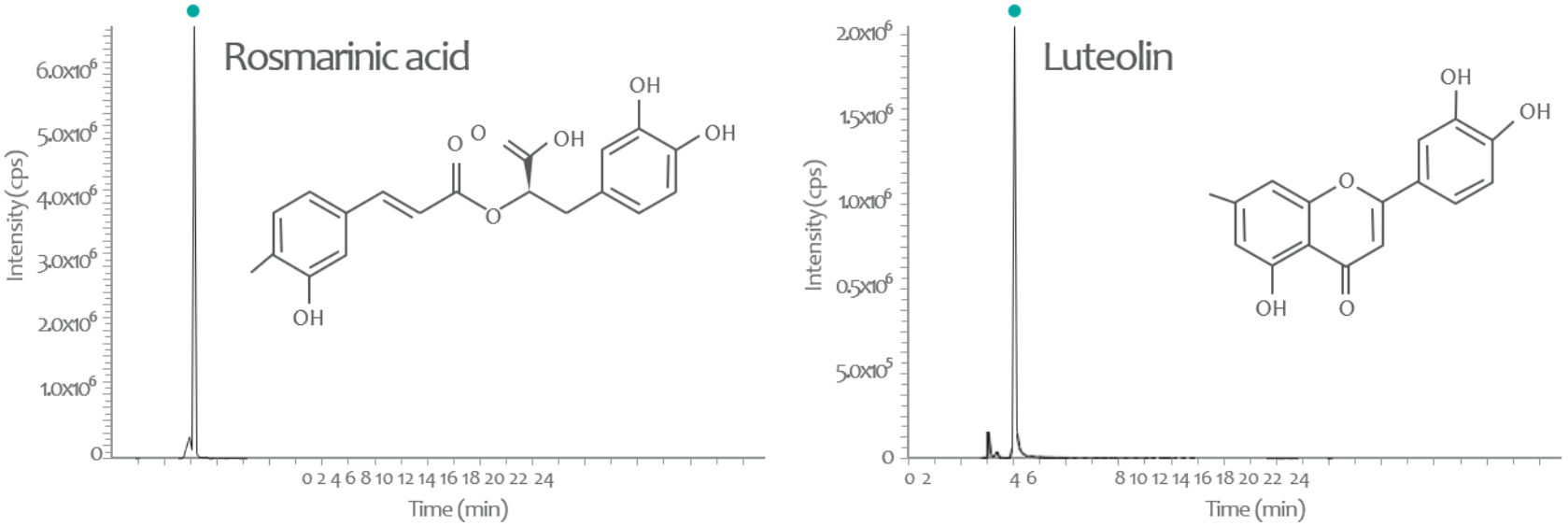
Compound analysis on its extract found antioxidant and antimicrobial agents including camphor, rosmarinic acid, luteolin and apigenin.

Extracts of lavender have also been found to have antiseptic and anti-inflammatory properties and can be used as a natural mosquito repellent.

[1] Composition analysis and antioxidant activities of the essential oil and the hydrosol extracted from *Rosmarinus officinalis* L. and *Lavandula angustifolia* Mill. Produced in Jeju, Jeon *et al.*, J Appl Biol Chem, 2013, 56(3), p.141-146
[2] Preservative activity of lavender hydrosols in moisturizing body gels, Kunicka-Styczynska *et al.*, Lett Appl Microbiol, 2015, 60(1), p.27-32
[3] Evaluation on bioactivities of total flavonoids from *Lavendula angustifolia*, Zhao *et al.*, Pak J Pharm Sci, 2015, 28(4), p.1245-1241

Flavonoids found in English Lavender

LC-MS/MS Analysis

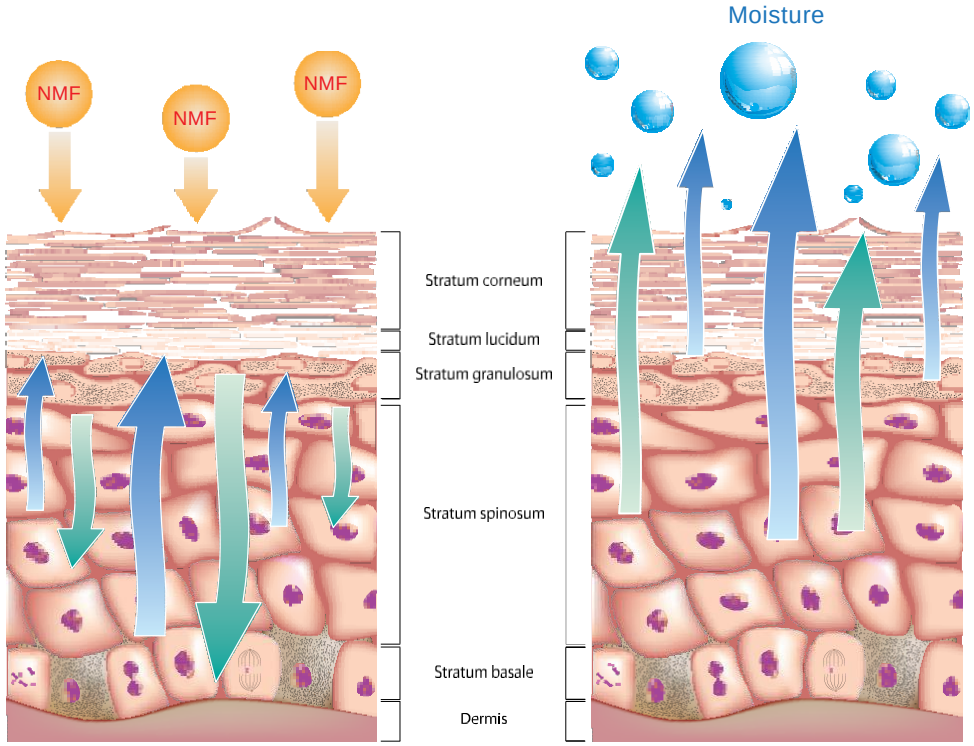


- Rosmarinic acid and luteolin are two compounds isolated in English Lavender. These both have been found to have anti-inflammatory *effects in vivo* and *in vitro,* as well as strong antioxidant and antimicrobial properties.

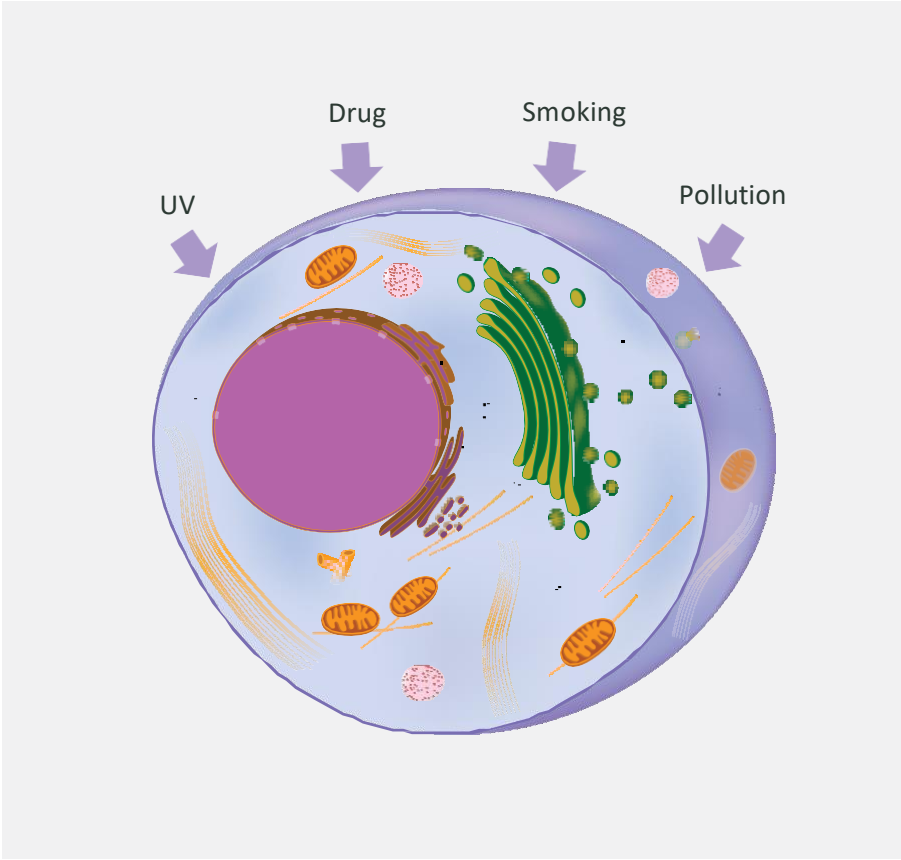
[4] Aziz, N., Kim, M. and Cho, J. (2018). Anti-inflammatory effects of luteolin: A review of in vitro, in vivo, and in silico studies. *Journal of Ethnopharmacology*, 225, pp.342-358.
[5] Nabavi, S., Tenore, G., Daglia, M., Tundis, R., Loizzo, M. and Nabavi, S. (2015). The Cellular Protective Effects of Rosmarinic Acid: From Bench to Bedside. Current Neurovascular Research, 12(1), pp.98-105.

Skin Structure

The retention of water in the Stratum corneum (SC) is dependent on two major components: (1) the presence of natural hygroscopic agents within the corneocytes (collectively referred to as natural moisturizing factor) and (2) the SC intercellular lipids orderly arranged to form a barrier to transepidermal water loss (TEWL). The water content of the SC is necessary for proper SC maturation and skin desquamation. Increased TEWL impairs enzymatic functions required for normal desquamation resulting in the visible appearance of dry, flaky skin.



Antioxidants

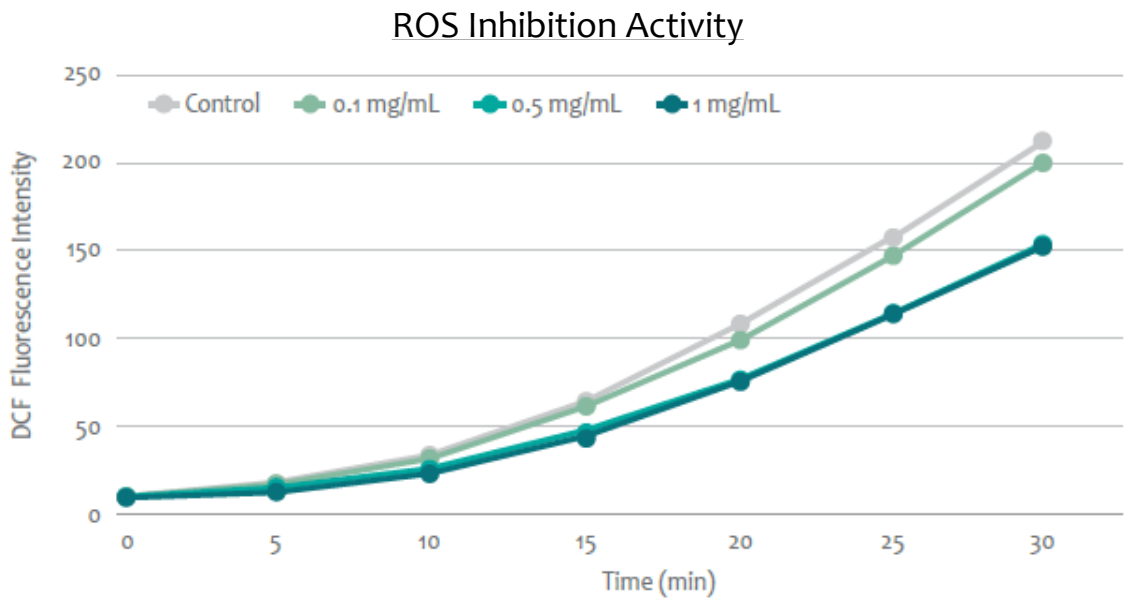


Why are they important?

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).

Antioxidants from Lavandula Angustifolia (Lavender) Flower Extract can inhibit the generation of ROS and in turn inhibit cellular damage.

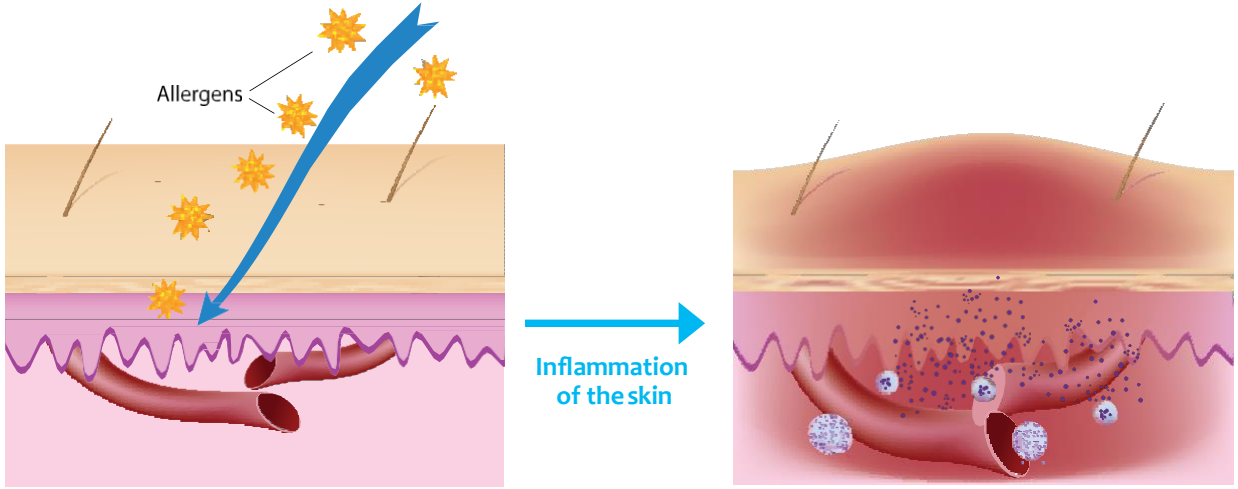
Antioxidant Effects of **English Lavender (*in vitro*)**



The results of this graph demonstrate the radical scavenging activity of English Lavender, via a ROS Generation Inhibition assay. A decrease in fluorescence intensity indicates reduction in the generation of ROS.

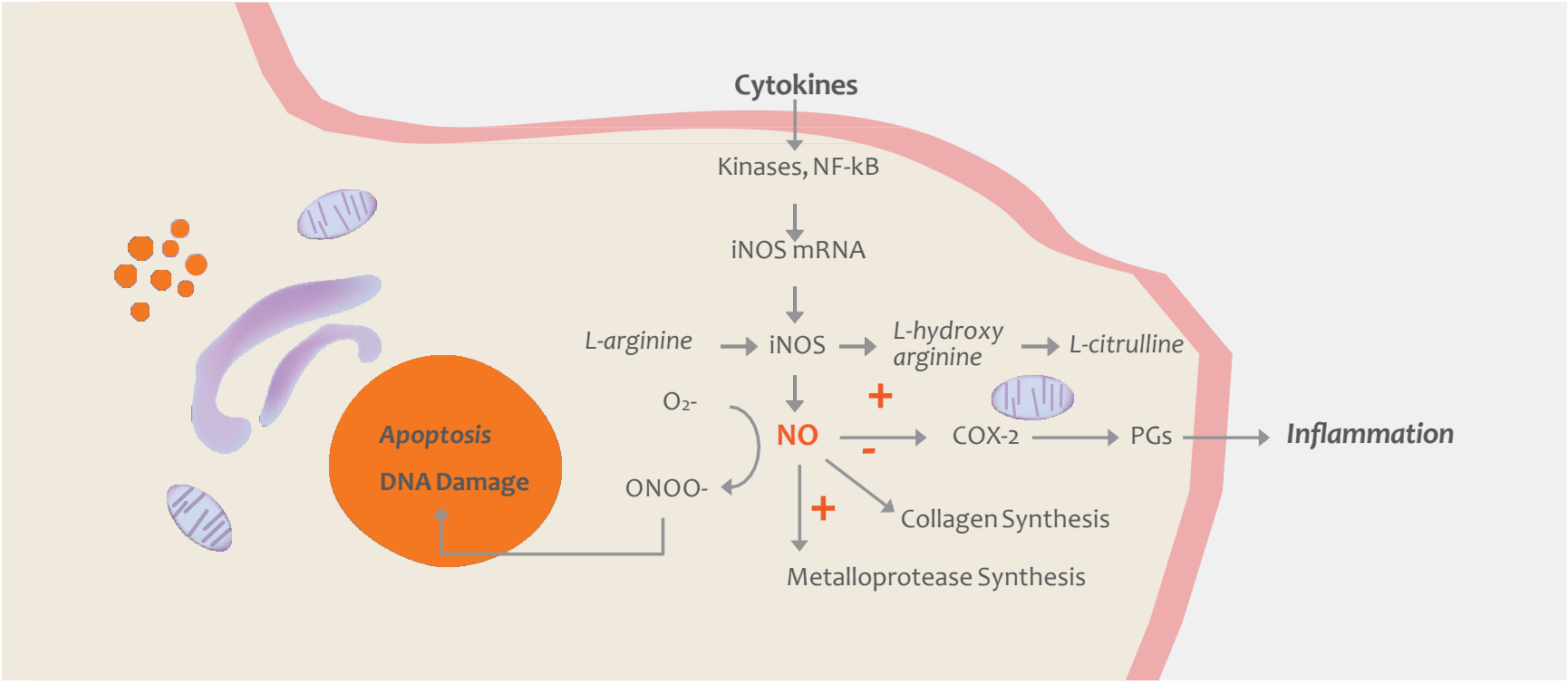
The results show a **significant decrease in ROS generation** in a concentration-dependent manner.

What is Inflammation?

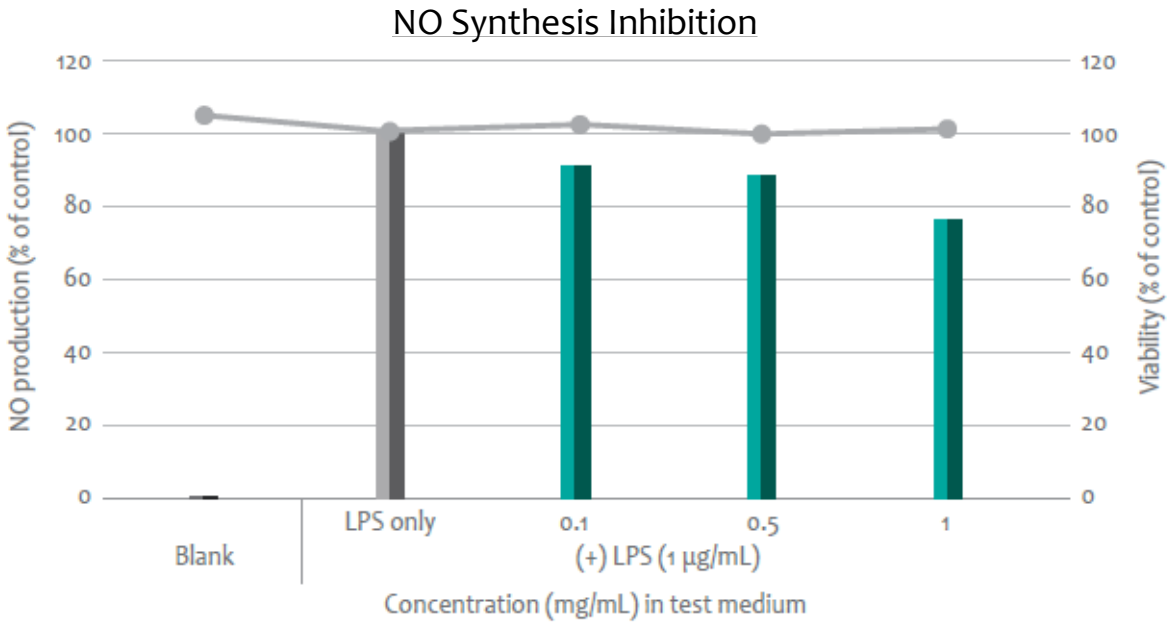


Inflammation is part of the complex biological responses to wide range of harmful stimuli including injury, tissue necrosis, infection, and irritants. The purpose of inflammation is to destroy (or contain) the damaging agent, initiate repair processes and return the damaged tissue to useful function. The symptoms of inflammation are redness, swelling, heat, and pain, which are caused by increased blood flow into tissue. The immune system is responsible of protecting our body from the harmful stimuli and of maintaining homeostasis. Disorders of the immune system can result in autoimmune diseases, inflammatory diseases, and cancer. In an attempt to protect the body, the immune system might overreact to the stimuli, and this might cause allergy or inflammatory reactions.

Inflammation Mechanism



Anti-Inflammatory Effect **English Lavender (*in vitro*)**



Nitric oxide (NO) synthesis was reduced in macrophages treated with **English Lavender.**

Reported functions

Ingredient : LAVANDULA ANGUSTIFOLIA FLOWER EXTRACT

INCI Name	LAVANDULA ANGUSTIFOLIA FLOWER EXTRACT
Description	Lavandula Angustifolia Flower Extract is an extract of the flowers of the Lavender, Lavandula angustifolia, Labiatae
INN Name	
Ph. Eur. Name	
CAS #	90063-37-9
EC #	289-995-2
Chemical/IUPAC Name	
Cosmetic Restriction	
Other Restriction(s)	
Functions	• CLEANSING • DEODORANT • MASKING • REFRESHING • TONIC
SCCS opinions	
Identified INGREDIENTS or substances e.g.	

Source: European Commission [http://ec.europa.eu/growth/tools-databases/cosing/index.cfm?fuseaction=search.details_v2&id=57058]

Product Information

Product Name : English Lavender

INCI name : Lavandula Angustifolia (Lavender) Flower Extract

Dosage : 1 – 3%

Formulation : Add to the formulation
when the temperature is lower than 55°C.
Recommended to add after the cooling process.

Storage : Avoid direct light or UV.
Keep it in a cool and dry area.

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.

Tel
+44 (0)131 629 9584

E-mail
marketing@tsocaledonia.co.uk

Address
Unit 8F Edgefield Rd Ind Est, Loanhead, EH20 9TB

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