

MAKRUT

Plant part: Leaf

Plant name: Kaffir Lime

Scientific name: *Citrus hystrix*

INCI name: Citrus Hystrix Leaf Extract

IECIC 2015 name: CITRUS HYSTRIX LEAF EXTRACT

Plant Story

- Kaffir lime is a citrus fruit that grows on short evergreen shrubs/ tree and is native to tropical regions in Asia. The fruit is green, ripens to yellow and is distinguishable by its bumpy exterior and small size.
- The plant can vary between 3 and 12 meters in height with notable 'double' leaves and robust spines.
- It is known for having a very aromatic scent, with notes of floral and described as a mixture of orange, lemon and lime. Although, the fruit is less juicy than other fruit in the citrus family.



Harvesting Makrut



- In Thailand, the plant can be found in almost every families garden as it is thought to provide cleanliness inside and out.
- The plant is required to have sunlight all year round to avoid leaves falling off with their harvest best in the summer months during their growth season.
- The fruit of the Makrut plant, similar to other citrus, are ripe in the autumn/ winter months.
- Harvest and shipment of the leaves comes from Thailand by skillful pickers.

Traditional Uses

- The leaves are widely used in Southeast Asia cuisines, especially in Thai curries. They are also chopped and added to foods, such as, salads.
- Kaffir Lime leaves are also commonly used in tea to give a lime aroma.
- As a traditional medicine, the plant is also known as medicinal lime and the fruits and leaves were used to treat headaches, fever, sore throat, heart disease and indigestion. The juice of the lime has potential antidandruff capabilities.

Scientific Research

It has a high content of alkaloids, citronellol, limonene, nerol and other organic compounds.

A study on kaffir lime demonstrated its antioxidant capacity with various experiments including FRAP assay, DPPH assay and ORAC assay and determined its total phenolic content and flavonoid content.

In another study, a methanol extract of kaffir lime showed antioxidant activities by scavenging free radicals as well as prooxidant effect by preventing DNA damage.

The plant has shown antimicrobial results using different forms such as the essential oil and the alcoholic extract.



Key Functions

Antioxidant

- DPPH Scavenging Activity
- FRAP Assay
- ORAC Assay

Antimicrobial

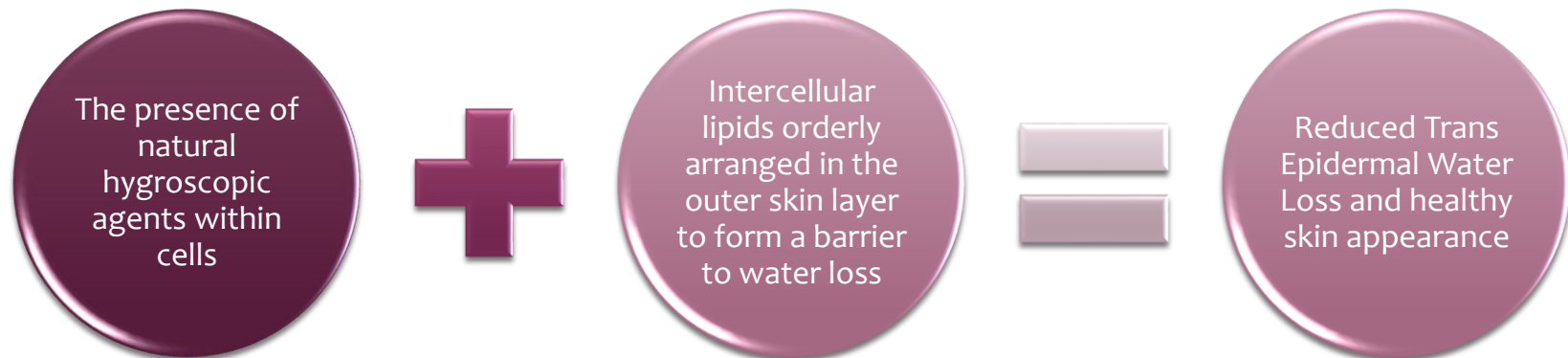


Skin Structure

Four Layers

- Stratum corneum
- Stratum lucidum
- Stratum granulosum
- Stratum spinosum

➤ Retention of water in the skin

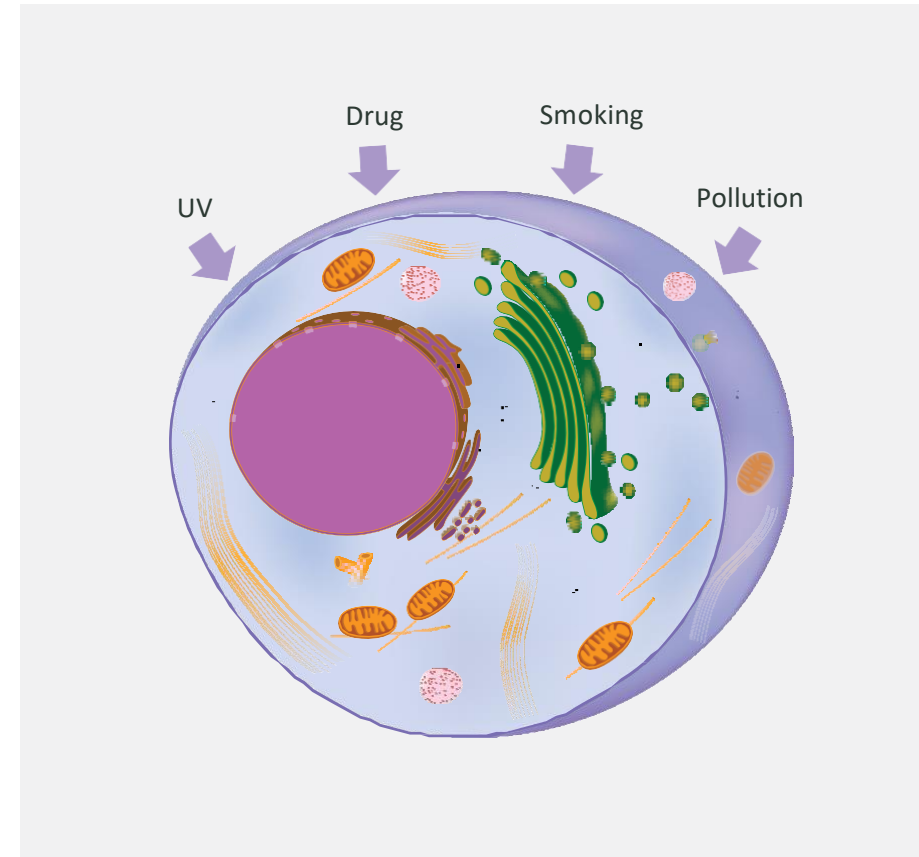


Antioxidants

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 InSpire can inhibit the generation of ROS and in turn inhibit cellular damage.



Reported Functions

Citrus Hystrix Leaf Extract

- **INCI Name:** Citrus Hystrix Leaf Extract
 - **INCI Monograph ID:** 17404
 - **Definition:** Citrus Hystrix Leaf Extract is the extract of the leaves of *Citrus hystrix*.
 - **SAFETY/REGULATORY INFORMATION**
 - **Information Source(s):** CIR: [SQ], UNII: 0J20655T5Z
 - **Chemical Class(es):** Botanical Products and Botanical Derivatives
 - **Reported Functions:** Skin-Conditioning Agents - Miscellaneous
 - **Ingredient Source(s):** Plant
 - **Trade Name(s):** [Click here to view full list of Trade Names](#)
 - **Trade Name Mixture(s):** [Click here to view full list of Trade Name Mixtures](#)
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Source: Personal Care Products Council

Product Information

- **Product Name : Makrut**
- **INCI name : Citrus Hystrix Leaf 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.



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