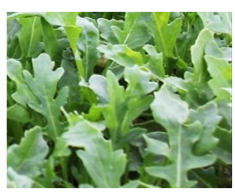
phenbiox

from university research-to cosmetic science

Couperine

Since couperose is the result of many different co-causes such as sensitive skin, vascular lesions, inflammation, etc., it is necessary to adopt a diversified strategy in order to counteract this skin problem. To help very sensitive skin to be less prone to develop couperose and to lessen it when already present, we have developed COUPERINE a mix of bioliquefied rocket salad leaves and Indian fig flowers.



- Hydrolyzed Eruca Sativa Leaf (our GSH-Defense, see relevant documentation for more information) is the main component of COUPERINE. The active isothiocyanates of rocket salad are able to boost the synthesis of glutathione (GSH), the only endogenous antioxidant of our body. Glutathione participates directly in the neutralization of free radicals and reactive oxygen compounds, as well as maintaining exogenous antioxidants such as vitamins C and E in their reduced (active) forms. It is used in metabolic and biochemical reactions such as DNA synthesis and repair, protein synthesis, prostaglandin synthesis, amino acid transport and enzyme activation. Thus, GSH plays a prominent role in the detoxification and/or excretion of hazardous molecules and in contrasting the inflammatory processes often related to radical presence. This ingredient is therefore able on one hand to increase the endogenous defensive system in our body, protecting it from redness/couperose insurgence, on the other hand to soothe and calm irritation.

- Opuntia ficus-indica is a species of cactus that has long been a domesticated crop plant important in agricultural economies throughout arid and semiarid parts of the world. It is thought to possibly be native to Mexico and the most commercially valuable use for Opuntia ficus-indica today is for the large, sweet fruits, called tunas. Areas with significant tuna-growing cultivation include Mexico, Malta, Spain, Sicily and the coasts of Southern Italy. In Sicily, the Indian fig grows wild and cultivated to heights of 4–5 meters. The plants flower in three distinct colors: white, yellow and red. The flowers first appear in early May through the early summer in the Northern Hemisphere, and the fruits ripen from August through October.

Indian fig flowers have been historically used in traditional medicine but only in recent years have some research groups started in-depth investigation into the definition of the chemical profile of this phytocomplex. These studies showed that the secondary metabolites present in Indian fig flowers are mainly phenols and high contents of isorhamnetin, quercetin, kampferol, rutin and luteolin and other phenolic were identified. Other components such as fatty acids, sitosterols and terpenes were found in lower amounts. High contents of polysaccharides can also be extracted from these flowers. The phenolic fraction of the Indian fig flower phytocomplex contains molecules that have a high antioxidant capacity and that can therefore directly act in counteracting radical-mediated irritations. These molecules are also known to be able to protect both large and small blood vessels from oxidative damage due to a range of effects. They can also mitigate micro-vessel damage and maintain micro-capillary integrity by stabilizing capillary walls. The polysaccharides contained in these flowers can also play an important role in helping the skin to recover from couperose, acting as a moisturizing and conditioning agent.

The combination of endogenous and exogenous antioxidants and protective molecules, as well as the soothing and conditioning effects that the mix of molecule contained in COUPERINE can deliver, make this product an effective active ingredient able to protect sensitive skins and help them to recover from irritations and couperose.

MADE IN ITALY

Couperose

Couperose, also called rosacea or erythrose, is a chronic, benign disease that causes dilation of small capillaries in the skin and promotes the appearance of tiny red vascular lesions on the face and nose. It is characterized by facial erythema (redness), extremely sensitive skin and sometimes pimples. Couperose affects all ages and if left untreated it worsens over time. Rosacea affects both sexes, but is almost three times more common in women. It has a peak age of onset between 30 and 60.

Couperose typically begins as redness on the central face across the cheeks, nose, or forehead, but can also less commonly affect the neck, chest, ears, and scalp. In some cases, additional symptoms, such as semi-permanent redness, telangiectasia (dilation of superficial blood vessels on the face), red domed papules (small bumps) and pustules, red gritty eyes, burning and stinging sensations, and in some advanced cases, a red lobulated nose (rhinophyma), may develop.

While it is first and foremost a hereditary condition, couperose can be aggravated by several different factors. Triggers that cause episodes of flushing and blushing play a part in the development of rosacea. Exposure to temperature extremes can cause the face to become flushed as well as strenuous exercise, heat from sunlight, severe sunburn, stress, anxiety, cold wind, and moving to a warm or hot environment from a cold one such as heated shops and offices during the winter. There are also some food and drinks that can trigger flushing, including alcohol, beverages containing caffeine (especially, hot tea and coffee), foods high in histamines and spicy food.

***In vivo* test**

To assess the ability of COUPERINE to improve the skin condition in subjects with couperose by acting as an effective soothing and anti-couperose active ingredient, a clinical trial was performed using a simple gel formulation containing COUPERINE 3 % p/p applied twice per day as a standard anti-couperose treatment.

Ten male and female patients aged between 27 and 44 years old (mean 33.2 ± 6.1) with couperose at an early stage of development (erythrosis with telangiectasias) were selected. All tests were carried out in the same surgery, at an average temperature of 23°C and at an average humidity of 45-50%, between 9 am and 1 pm . Measurements were performed by the same investigator.

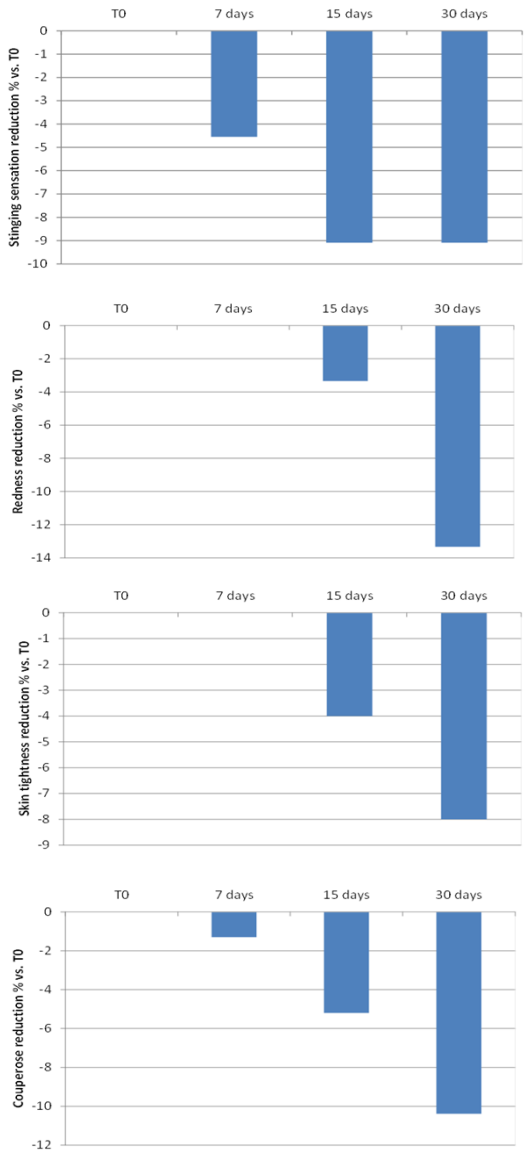
The subjects' conditions at time zero and during the study were assessed by skilled dermatologists in order to evaluate the main signs of couperose. The parameters assessed were: redness, stinging sensation, skin tightness. These parameters were evaluated according to a 5 degree scale (0 = absent, 1 = mild, 2 = medium, 3 = notable, 4 = high). The overall evaluation of these parameters provides information on the couperose degree of each volunteer and therefore on any anti-couperose effect of the tested ingredient.

After just one week of treatment with COUPERINE 3%, there was already a clear reduction (-4.5 %) of the stinging sensation perceived by the subjects. The stinging sensation was further diminished after 2 and 3 weeks to -9.1 %.

Reductions in redness and skin tightness started to be perceived after 2 weeks of treatment. Redness reduction was -3.3 % after the second week of treatment but the improvement at the end of the treatment at week 4 was quite significant with a -13.3% decrease. Skin tightness was improved, following a linear path with a reduction of -4.0 % at week 2 and -8.0 % at week 4.

The overall evaluation of the three parameters to assess the couperose degree showed an improvement that was already starting after just one week of treatment (-1.3 %). The couperose constantly decreased during the study. After 2 weeks there was a reduction of couperose of -5.2 % and after 4 weeks the score further decreased to –10.4 %.

<u>COUPERINE is an active ingredient able to effectively reduce couperose from the first week of application.</u>



Technical specifications:

- INCI name: Hydrolyzed Eruca Sativa Leaf, Hydrolyzed Opuntia Ficus-indica Flower Extract
- Preservatives: citric acid, sodium benzoate, potassium sorbate
- Suggested concentration of use: 3-5 % w/w

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