

# PoreAway to Treat Impure Skin

## Pistacia lentiscus resin as effective, matifying skin refiner

Impure skin is not only a problem in puberty; many adults also face this problem. The main reason for impure skin is the increased production of sebum. This leads to a dilation of pores and an oily, shiny appearance of the skin. If the pore duct is blocked by hyperkeratinisation, a blackhead (comedo) is formed. In the sebum plug, acne bacteria multiply and their metabolites induce an inflammation leading to a red pustule. PoreAway is a cosmetic ingredient prepared from Mastic, the resin from the *Pistacia lentiscus* tree (INCI: *Pistacia Lentiscus* (Mastic) Gum, Lecithin, Glycerin, Alcohol, Water). PoreAway was found to inhibit the enzyme 5alpha-reductase type I, a key factor in sebum production. In clinical studies it was demonstrated that the opening of the pores was reduced and that the formation of comedones and shiny skin was reduced.

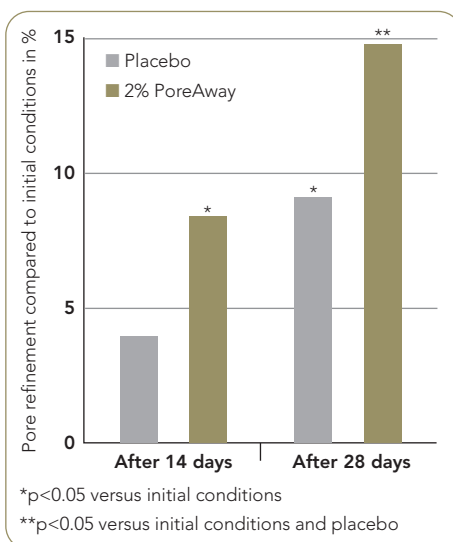


### Mastic, the Gold of Chios

Mastic is the resin from the *Pistacia lentiscus* tree which belongs to the same family as the popular pistachio nut producing tree. *Pistacia lentiscus* is native to the Mediterranean region and the Canary Islands. The resin, however, is obtained only from the Greek island of Chios. The special micro-climate and special soil on the island stimulate the trees to produce more resin than elsewhere. There are many applications for the dried resin, such as a spice in pastries, as an additive in chewing gum and as an antiseptic in the treatment of minor wounds. Mastic is also traditionally used as a medicine for several indications. Mastic extracts have an antibacterial and antimycotic effect; they inhibit inflammations and act against *Helicobacter pylori* and various cancer cells. The principal active components in the resin are penta and tetracyclic triterpenes.

### PoreAway, the mastic active for BB creams

The mastic oleo-resin is not water soluble. PoreAway is based on a mastic extract stabilised



in a liposomal preparation, prepared by homogenisation of the resin in glycerin, alcohol and lecithin.

### Reducing sebum production

Signs of impure skin such as enlarged pores and acne are because of an increased production of sebum. The hormone dihydrotestosterone regulates the formation of sebum in the sebaceous gland. The hormone is produced from testosterone by the enzyme 5alpha-reductase type 1. There are two isoenzymes of 5alpha-reductase known, types 1 and 2, that differ in their tissue localisation. The type 1 predominates in the sebaceous gland and is therefore the target in the therapy of impure skin. PoreAway was tested for inhibition of the enzyme 5alpha-reductase type 1. The result was a clear, concentration-dependent inhibition of the activity of 5alpha-reductase type 1 with an IC50 value of 270 µg/ml.

### Reducing the size of pores

A cream with 2% PoreAway was tested for its efficacy in reducing open pores. Twenty women with enlarged, open pores applied the test product to their cheeks on one side. The placebo cream without PoreAway was applied to the other cheek. For analysis of the pore size, silicone replicas of the pore areas were produced and then analysed with the Primos system. There was a marked smoothing of the skin after 4 weeks' treatment with the PoreAway cream. The Primos data were additionally evaluated in order to calculate the total surface area of the pores. A significant reduction in the overall surface area of the pores was found.

### Reducing comedones and shininess

In a second study, the same creams were tested in Thailand on women who had greasy and acne prone skin. 44 volunteers between the ages of 30 and 52 were split into two groups with one group using the PoreAway cream and the other using the placebo cream. The number of open (blackheads) and closed comedones (microcysts) and the shiny appearance of the face were evaluated by dermatologists before the first product application and after 4 weeks' treatment. After using the PoreAway cream, the number of open and closed comedones was significantly less than before treatment. The shine on the skin was clearly reduced after the treatment in the group who used the PoreAway cream. In the placebo group, no improvement was seen.

PoreAway is highly suitable for cosmetic formulations aimed at improving blemished skin which is prone to shininess, acne and suffers from enlarged pores.

Mibelle Biochemistry, Stand L48

