Anti-Acne

A unique formulation to fight the various form of acne and work on the sebum control

Acne is a common skin disorder which is a visible end result of hormonal, bacterial and inflammatory disturbances that take place at the level of the oil pore (*pilosebaceous follicle*). It is characterized by presence of open comedones (black heads) and closed comedones (microcysts).

Some of the common causes of acne

- Growth and multiplication of acne causing bacterium *Propionibacterium acnes*.
- Higher levels of the hormone Dihydrotestosterone by the activity of the enzyme 5-alpha reductase.
- Increase in androgens during puberty and adolescence which in turn, triggers an enlargement of the sebaceous glands.

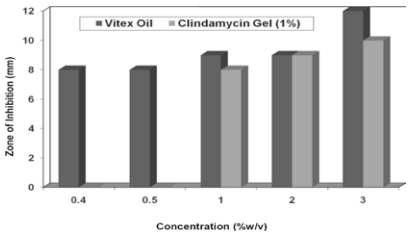
Prevention of acne

Acne may be prevented by:

- Reducing sebum production (secreted by sebaceous glands)
- Reducing bacteria (P. acne) on the skin
- Reducing the inflammation
- Exfoliation-peeling of the skin which unclogs pores

Anti-microbial Vitex

Vitex oil is extracted from the berries of *Vitex agnuscastus* and is standardized for 0.40% of Artemetin. It is made up of long chain fatty alcohols and long chain fatty acids like lauric, myristic, palmitic, stearic, oleic, linoleic and linolenic acids. The oil has potential anti-microbial activity. Vitex oil inhibits the growth of *Propionibacterium acnes* (anaerobic bacteria), *E. coli* (from 0.1%) and *S. aureus* (aerobic bacteria, from 0.5%).

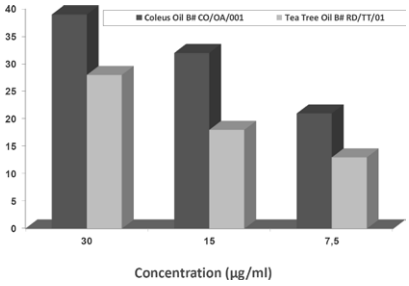


At concentrations above 0.4%, it effectively inhibits the *P. acne* bacteria and the activity is well **comparable to 1% Clindamycin gel.**

Anti-microbial Coleus oil

Coleus oil is an oil obtained from the fresh roots of *Coleus forskohlii*. It is standardized to 15% Bornyl acetate and 15% Decanal. The oil having good anti-microbial activity is a potent anti-acne ingredient. Coleus oil was found to effectively inhibit the growth of skin pathogens such as:

- *Propionibacterium acnes* (associated with acne) : Inhibition of more than 25% at 1.25µg/ml (versus 15% for tea tree oil), and still 15% at 0,5 mg/ml



- *Staphylococcus aureus* (a bacterial strain found in infected wounds and skin eruptions including acne) : Inhibition by 40% at 30µg/ml, so about 3x more than tea tree oil, and still 30% at 7,5 mg/ml when tea tree oil is then not active anymore
- *Staphylococcus epidermidis* (a bacterial strain occurring in a variety of opportunistic bacterial skin infections): inhibition by ca. 30% at 30µg/ml, so double than tea tree oil, and still 15% at 7,5 mg/ml when there's no more activity from tea tree oil.
- *Candida albicans* : Inhibition by 40% at 30µg/ml and ca. 20% at 15µg/ml, so always more than Tea Tree Oil, without the unpleasant odor.

Sebum control Policosanol

Policosanol is a mixture of fatty alcohols derived from waxy extract of sugarcane. It contains a minimum of 55 – 60% Octacosanol. Policosanol was found to have anti-microbial and sebum control effects that are potentially useful in managing inflammatory skin conditions, particularly acne.

In a 2 week study on 16 human subjects between 8 and 25 yrs of age, 2% and 5% Policosanol colloidal solutions were found to be safe for local application. Topical applications of the Policosanol colloidal solutions were found to decrease the sebum secretion in a concentration dependent manner. (Reduction from 11.6% to 27.6%). **Policosanol effectively compared with Clindamycin.**

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Formulations may include as well the Cosmoperine - our Dermal Penetration Enhancer for a better efficacy, or Monolaurin , potent against *P. acne*

FOCUS HINTS