

ViaPure[®] Sabal

Highly-refined Active
To Help Reduce Hair Loss
& Improve Oily Skin Conditions

Highly-refined Saw Palmetto Extract

Bioactive compounds present in the lipophilic extracts of Saw Palmetto berries are known to inhibit the production of 5 α -dihydrotestosterone, the most potent androgen, and exhibit potent anti-inflammatory activity by inhibiting both cyclooxygenase and 5-lipoxygenase.

Actives International developed an EcoCert-compliant two-step process utilizing supercritical fluid CO₂ extraction and molecular distillation that optimizes the active components of Saw Palmetto for the personal care industry. This process also significantly lightens the undesirable dark color of the extract.

ViaPure Sabal is a highly refined Saw Palmetto extract, rich in fatty acids and pale yellow in color. It helps reduce sebum-related skin problems and accelerated hair loss.

Key Activities of ViaPure Sabal

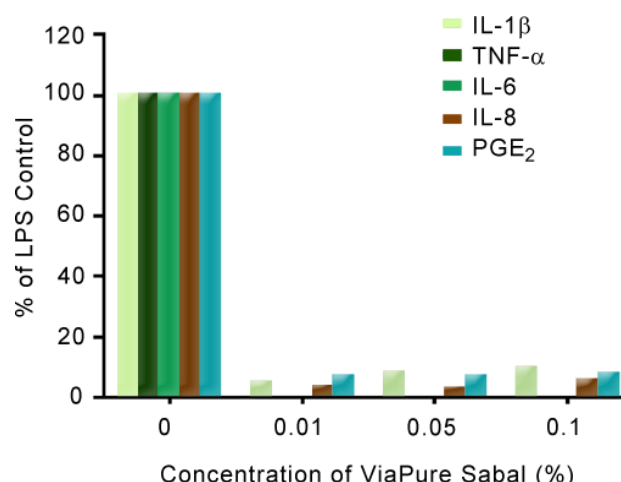
- Inhibits the release of pro-inflammatory cytokines and prostaglandin
- Inhibits 5 α -reductase Type I
- Reduces sebum production



ViaPure Sabal Inhibits LPS-induced Inflammatory Parameters in Human Monocytes

Inflammation is a key component of acne and is also implicated in hair loss. Acne is a complex problem exacerbated by oily skin, clogged pores, *P. acnes*, and inflammation. Inflammation causes redness and tissue damage, ultimately leading to scarring. Inflammation of the scalp has been also shown to cause hair loss.

Human primary monocytes were treated with ViaPure Sabal for 30 minutes and then stimulated with LPS (lipopolysaccharide) for 24 hours. Supernatants were analyzed for the release of prostaglandin and pro-inflammatory cytokines by EIA or ELISA.

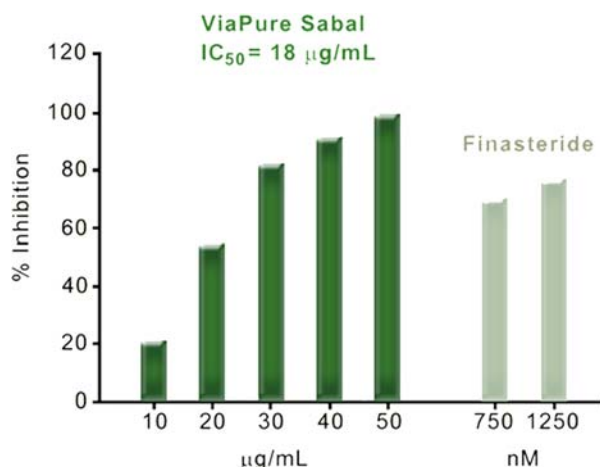


ViaPure Sabal strongly inhibits the release of prostaglandin and pro-inflammatory cytokines, IL-1β, TNF-α, IL-6, and IL-8 in human monocytes. The anti-inflammatory activity of ViaPure Sabal is expected to improve the underlying condition of acne-prone skin, and help prevent hair loss.

ViaPure Sabal Inhibits 5 α -reductase Isozyme I

5 α -reductase (5 α R) catalyzes the conversion of testosterone to 5 α -dihydrotestosterone (DHT). Androgenic alopecia (hair loss) is caused by an overproduction of 5 α -reductase and DHT in the hair follicles. DHT also stimulates the production of sebum, one of the main causes of acne.

Two distinct 5 α R isozymes are expressed in humans: 5 α R Type I and 5 α R Type II. These two isozymes display distinct biochemical and pharmacological properties and have a different distribution pattern. Type I is predominantly expressed in skin, scalp, and hair follicles and Type II is mainly found in prostate tissue. Therefore, for personal care products, it is pertinent to address 5 α R Type I.

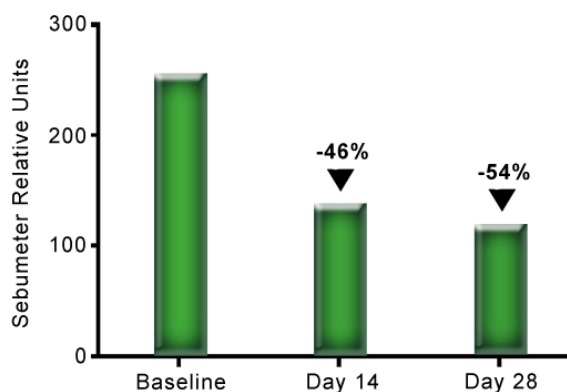


Cell homogenates were isolated from transfected human embryonic kidney cells, expressing 5 α R Type I. An aliquot of cell homogenate was incubated with androstenedione and each of the test compounds at various concentrations. Finasteride, a known inhibitor of 5 α R Type I, was used as the positive control. Conversion rates were calculated based on the level of androstenedione and its metabolite 5 α -androstenedione measured by LC/MS.

ViaPure Sabal is a strong inhibitor of 5 α R Type I. Inhibitors of 5 α R such as finasteride are being used to treat hair loss. In a similar way, ViaPure Sabal may be beneficial for improving scalp hair growth and also oily skin.

ViaPure Sabal Reduces Sebum Production in Human Subjects

A panel of three volunteers with self-assessed oily skin applied 0.5% ViaPure Sabal in a simple cream to the "T zone" area of the face twice daily. The level of secreted sebum on the treated skin area was measured by sebumeter prior to and after 14 days and 28 days of application.



ViaPure Sabal markedly reduces sebum production. The level of sebum is decreased to almost half after two week application of ViaPure Sabal. This *in vivo* study provides evidence that ViaPure Sabal can help improve oily skin and sebum-induced skin problems.

ViaPure® Sabal

INCI Nomenclature:	<i>Serenoa serrulata</i> fruit extract
Composition:	≥ 94% fatty acids from Saw Palmetto
Recommended Use Level:	0.1 - 1%
Formulation Guidelines:	Incorporate as part of oil phase
Preservative System:	None
Safety Information:	Available on request
EcoCert Status:	Complies with the EcoCert Natural and Organic Cosmetic Standard