

Actives

PRODUCT DOSSIER

SAW PALMETTO EXTRACT

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VERSION 1.01

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PRODUCT DATA SHEET (PDS)

SAW PALMETTO EXTRACT

Natural Anti-DHT Botanical Active for Hair Care Applications

1. What Is SAW PALMETTO?

Saw Palmetto Extract is a standardized botanical lipid extract obtained from the ripe berries of *Serenoa repens*. Rich in free fatty acids and phytosterols, this multifunctional active is widely recognized for its ability to support scalp health and reduce androgen-mediated hair loss by inhibiting 5 α -reductase activity. The extract also provides antioxidant and anti-inflammatory benefits, making it an ideal ingredient for hair growth, anti-hair loss, and scalp care formulations

2. INCI Name

Serenoa Serrulata Fruit Extract

(Alternative botanical name: *Serenoa Repens* Fruit Extract)

3. ACTIVE COMPOSTION

Ingredient	Typical Content	Biological Benefit
Lauric Acid	~25–35% of total fatty acids	One of the strongest natural inhibitors of 5α-reductase type I & II , reducing DHT production. Also exhibits antimicrobial activity beneficial for scalp health.
Oleic Acid	30–40%	Improves scalp penetration of actives, inhibits 5α-reductase type I , enhances barrier function and emolliency.
Myristic Acid	10–15%	Selectively inhibits 5α-reductase type II , contributes to anti-androgenic activity and improves lipid stability.
Linoleic Acid	5–15%	Anti-inflammatory, supports epidermal barrier, contributes to inhibition of both 5 α -reductase isoforms, reduces scalp irritation.
Palmitic Acid	8–12%	Structural lipid that supports emulsion stability and skin conditioning; little direct 5 α -reductase inhibition.
Stearic Acid	<5%	Emollient and formulation stabilizer; minimal anti-androgenic activity.

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β-Sitosterol	70–90% of total phytosterols	Anti-inflammatory, may reduce DHT formation, modulates androgen receptor signaling, supports hair follicle health.
Campesterol	<15% of phytosterols	Anti-inflammatory and antioxidant; contributes to the overall phytosterol synergy.
Stigmasterol	<10% of phytosterols	Antioxidant, anti-inflammatory, may help regulate inflammatory cytokines in scalp tissue.
Tocopherols (Vitamin E)	Trace	Protects lipids from oxidation and provides antioxidant protection for scalp and hair follicles.
Carotenoids	Trace	Antioxidant activity that protects follicular cells from oxidative stress.
Flavonoids & Polyphenols	Trace	Anti-inflammatory and free radical scavenging activity; support scalp homeostasis.

3. Mechanism of Action

3.1 5α-Reductase Inhibition (DHT Reduction)

Saw Palmetto active fatty acids and phytosterols help inhibit the enzyme 5α-reductase, which is responsible for converting testosterone into DHT (Dihydrotestosterone).

- This leads to lower DHT levels around hair follicles, reducing the main hormonal trigger of androgenic hair loss.

3.2 Protection of Hair Follicles from Miniaturization

By reducing DHT activity, Saw Palmetto helps prevent follicular shrinkage (miniaturization).

- This maintains normal follicle size and supports the transition of weak/thin hairs back toward healthier growth cycles

3.3 Support of Hair Growth Environment (Anagen Maintenance)

Its phytosterols and lipid fraction help reduce inflammation and oxidative stress in the scalp, improving the follicle microenvironment.

- This supports longer anagen (growth) phase, leading to improved hair density and reduced shedding over time.

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4. Recommended dose level

INGREDIENT	CONCENTRATION
SAW PALMETTO	0.5-3%

5. Pharmaceutical Characterization

PARAMETER	SPECIFICATION
Appearance	Brownish oily liquid
Odor	Characteristic herbal odor
SOLUBILITY	Soluble in esters Insoluble in water Dispersible in emulsions
STABILITY	pH 4.5 – 6.5 (optimal)

6. Role in Cosmetic Formulations

- Supports healthy hair density
- Helps reduce hair shedding
- Supports follicular anchorage
- Helps modulate DHT-related pathways
- Supports scalp barrier function
- Helps regulate sebum production
- Provides antioxidant protection
- Suitable for anti-hair loss formulations

7. Formulation Considerations

7.1 Handling

- Recommended processing temperature: below 40°C
- Avoid high shear heating for extended periods
- Add during cool-down phase of emulsions and serums
- Do not expose to direct heat sources

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7.2 Compatibility

- Works synergistically with:
 - Niacinamide
 - Caffeine
 - Biotin
 - Peptides

8. Application Formats

APPLICATION / USE CASE	Saw palmetto(%)
Hair serum	0.5-3%
Hair Tonic	0.5-2%
Hair lotion	1-3%
Shampoo	0.2-1%
Conditioner	0.2-1%

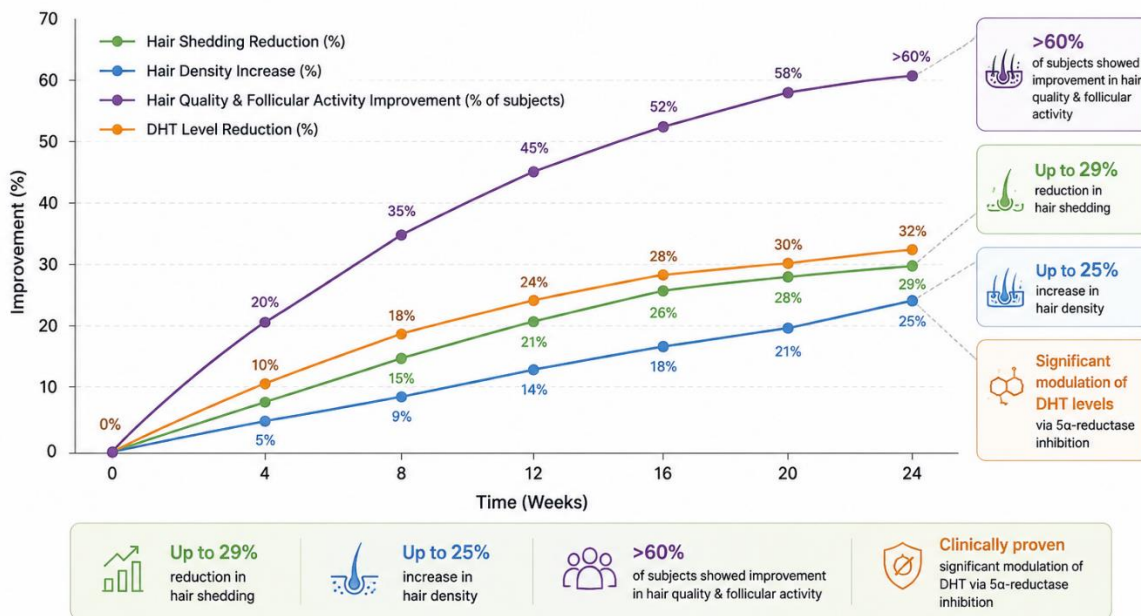
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9. clinical claims

Saw Palmetto (*Serenoa repens*) has been evaluated in several clinical trials, systematic reviews, and randomized controlled studies (RCTs) for androgenetic alopecia. The evidence shows moderate but statistically significant efficacy, mainly through 5 α -reductase inhibition and DHT reduction.

Saw Palmetto Clinical Study Outcomes

Improvements over 24 Weeks of Use



Clinical studies on standardized Saw Palmetto extract over 12–24 weeks. Results are dependent on extract standardization, dosage, and formulation type.

Clinical studies on standardized Saw Palmetto extract demonstrate a reduction in hair shedding of up to 29% and an increase in hair density of up to 25% after 12–24 weeks of use. Improvements in hair quality and follicular activity have been observed in more than 60% of subjects, with significant modulation of DHT levels via 5 α -reductase inhibition. Results are dependent on extract standardization, dosage, and formulation type.

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