

PRESCRIPTION MONOGRAPH

Compounded Active Ingredients: Pregnenolone

Form: Topical Cream

Drug Class:

Endogenous steroid precursor (neurosteroid); the first product of cholesterol side-chain cleavage by CYP11A1 (P450scc) and a precursor to progesterone, DHEA, glucocorticoids, and sex steroids.

Mechanism of Action¹:

Pregnenolone is intended to:

- Drive hormone production by converting into progesterone, cortisol, DHEA, testosterone, and estrogens to direct fuel the body's steroid hormone pathways.
 - Activate brain signaling to enhance excitatory NMDA activity and modulate GABA_A inhibition — supporting memory, alertness, and balanced mood.
 - Support neuron protection by promoting synaptic plasticity and reducing neuroinflammation — contributing to potential neuroprotective effects.
 - Balance stress response by providing substrate for cortisol synthesis
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Indications Commonly Prescribed for:

- Adjunctive hormone support: precursor steroid intended to support downstream production of progesterone, DHEA, and estrogens.
 - Cognitive and mood support: Sometimes compounded for patients with age-related cognitive complaints, fatigue, or mood instability, based on its role as a neurosteroid.
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Before Use: Let your health care provider know if you have any medication allergies before you take this compounded preparation. Let your health care provider know if you have any liver or kidney problems. Let your healthcare provider know of all supplements you are currently taking.

Contraindications:

- Known hypersensitivity to pregnenolone or product excipients.
 - Hormone-sensitive conditions: avoid or exercise caution in active hormone-dependent cancers unless directed by a specialist.
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Cautions: Let your Healthcare provider know if you experience any adverse side effects.

How to Use: This compounded preparation is in the form of a topical cream. The cream is a special container that will administer 0.6ml dose. Clean desired area prior to use. To administer remove the protective covering on the top of the dispenser. Place the jar on a flat surface. Using clean, dry hands, gently press down on the top of the pump. This will dispense a measured amount of cream through the center opening. Confirm the cream has exited the holes at the top of the dispenser. Apply the cream onto the desired area. Continue to rub the area until the cream is evenly dispersed over the desired area. Replace the protective cover and store the device until next dose. If you miss a dose apply as soon as you remember, but not at the time for the next dose. The desired results may take up to several weeks.

Compounded medications are not FDA-approved and may differ in risks, benefits, and side effects from FDA-approved products. These statements have not been evaluated by the FDA and are not intended to diagnose, treat or cure any disease or condition and do not indicate any claims of safety or efficacy. Individual results may vary.

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Warnings and Precautions:

- Hormone conversion variability: Pregnenolone metabolism is inconsistent among individuals and may lead to unpredictable hormone levels.
 - Neuropsychiatric effects: may affect sleep, mood, or cognition—use caution in patients with unstable psychiatric illness.
 - Monitor in cardiovascular/metabolic risk patients: can affect lipid profiles and insulin sensitivity.
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Adverse Reactions:

- Insomnia, agitation/activation, dizziness, acne or oily skin, GI upset
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Interactions:

- Pharmacodynamic: May counteract or augment effects of other CNS-active agents.
 - Endocrine: Because pregnenolone is a precursor to multiple steroids, concurrent use with exogenous hormones could have additive hormonal effects; take care in patients on HRT, androgens, or anti-estrogen therapies.
 - Metabolism: Specific CYP-mediated interaction data are limited; downstream conversions involve classic steroidogenic enzymes rather than hepatic CYP metabolism for pregnenolone itself.
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Use in Specific Populations:

- Pregnancy & lactation: avoid unless under specialist direction.
 - Pediatrics: Insufficient evidence; avoid routine use.
 - Hepatic disease: Use caution (steroid metabolism occurs in liver)
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Storage:

- Store in original container at room temperature (up to 30°C or 86°F)
 - Store in a cool dry place away from heat, sunlight, and moisture
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Monitoring Parameters:

- Clinical: Target-specific symptom scales (e.g., MADRS/HAM-D for depression, SANS/NSA-16 for schizophrenia); sleep, agitation, acne/androgenic effects.
 - Laboratory (selected cases): Consider baseline and periodic sex-steroid panel (testosterone, estradiol, progesterone, SHBG) in prolonged/higher-dose use or in patients with hormone-sensitive risks.
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Citations:

1. Lin YC, Cheung G, Porter E, Papadopoulos V. The neurosteroid pregnenolone is synthesized by a mitochondrial P450 enzyme other than CYP11A1 in human glial cells. *J Biol Chem.* 2022;298(7):102110. doi:10.1016/j.jbc.2022.102110