

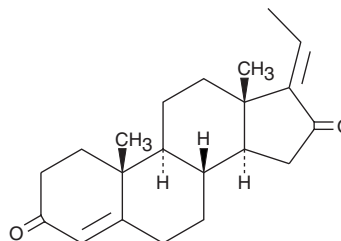
PRODUCT INFORMATION



(E)-Guggulsterone

Item No. 10011296

CAS Registry No.: 39025-24-6
Formal Name: pregna-4-17(20)-diene-3,16-dione
MF: $C_{21}H_{28}O_2$
FW: 312.5
Purity: $\geq 98\%$
Supplied as: A crystalline solid
Storage: $-20^{\circ}C$
Stability: ≥ 2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

(E)-Guggulsterone is supplied as a crystalline solid. A stock solution may be made by dissolving the (E)-guggulsterone in the solvent of choice. (E)-Guggulsterone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of (E)-guggulsterone in these solvents is approximately 1, 0.25, and 10 mg/ml, respectively.

(E)-Guggulsterone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (E)-guggulsterone should first be dissolved in DMF and then diluted with the aqueous buffer of choice. (E)-Guggulsterone has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Bile acids are essential for solubilization and transport of dietary lipids, are the major products of cholesterol catabolism, and are physiological ligands for farnesoid X receptor (FXR), a nuclear receptor that regulates genes involved in lipid metabolism.¹ They are also inherently cytotoxic, as physiological imbalance contributes to increased oxidative stress.^{2,3} Bile acid-controlled signaling pathways are promising novel targets to treat such metabolic diseases as obesity, type II diabetes, hyperlipidemia, and atherosclerosis. Guggulsterone, derived from resin of the guggul tree, is a competitive antagonist of FXR both *in vitro* and *in vivo*.⁴ The *cis* stereoisomer of guggulsterone, (E)-guggulsterone, decreases chenodeoxycholic acid (CDCA)-induced FXR activation with an IC_{50} value of 15 μM .^{5,6} By inhibiting CDCA-induced transactivation of FXR, guggulsterone lowers low-density lipoprotein cholesterol and triglyceride levels in rodents fed a high cholesterol diet.⁴

References

1. Makishima, M., Okamoto, A.Y., Repa, J.J., et al. *Science* **284**, 1362-1365 (1999).
2. Barbier, O., Torra, I.P., Sirvent, A., et al. *Gastroenterology* **124**, 1926-1940 (2003).
3. Tan, K.P., Yang, M., and Ito, S. *Mol. Pharmacol.* **72**(5), 1380-1390 (2007).
4. Urizar, N.L., Liverman, A.B., Dodds, D.T., et al. *Science* **296**, 1703-1706 (2002).
5. Cui, J., Huang, L., Zhao, A., et al. *J. Biol. Chem.* **278**(12), 10214-10220 (2003).
6. Wu, J., Xia, C., Meier, J., et al. *Mol. Endocrinol.* **16**(7), 1590-1597 (2002).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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