

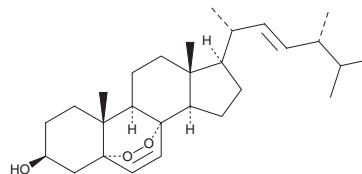
# PRODUCT INFORMATION



## Ergosterol Peroxide

Item No. 30860

**CAS Registry No.:** 2061-64-5  
**Formal Name:** (3 $\beta$ ,5 $\alpha$ ,8 $\alpha$ ,22E)-5,8-epidioxy-ergosta-6,22-dien-3-ol  
**Synonyms:** Ergosterol Endoperoxide,  
NSC 31324  
**MF:** C<sub>28</sub>H<sub>44</sub>O<sub>3</sub>  
**FW:** 428.7  
**Purity:**  $\geq$ 98%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years  
**Item Origin:** Plant/Unidentified sp.



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

### Laboratory Procedures

Ergosterol peroxide is supplied as a crystalline solid. A stock solution may be made by dissolving the ergosterol peroxide in the solvent of choice, which should be purged with an inert gas. Ergosterol peroxide is soluble in methanol.

### Description

Ergosterol peroxide is an oxidized sterol and derivative of ergosterol (Item No. 19850) that has been found in *S. aspratus* and has diverse biological activities.<sup>1-5</sup> It is active against the *P. falciparum* chloroquine-sensitive strain FCA 20/GHA with an IC<sub>50</sub> value of 8.2  $\mu$ M.<sup>2</sup> Ergosterol peroxide (6.25-50  $\mu$ M) induces apoptosis in LNCaP and DU145 prostate cancer cells.<sup>3</sup> It inhibits growth of SNU-1 gastric, SNU-354 hepatoma, and SNU-C4 colorectal cancer cells (IC<sub>50</sub>s = 18.7, 158.2, and 84.6  $\mu$ M, respectively).<sup>6</sup> Ergosterol peroxide (60  $\mu$ M) inhibits LPS-induced NF- $\kappa$ B DNA-binding activity and production of TNF- $\alpha$  in RAW 264.7 cells.<sup>4</sup> Topical application of ergosterol peroxide reduces ear edema in a mouse model of inflammation induced by phorbol 12-myristate 13-acetate (TPA; Item No. 10008014) with an ID<sub>50</sub> value of 0.2 mg/ear.<sup>5</sup>

### References

1. Nielson, J.R., Fredrickson, E.K., Waller, T.C., *et al.* Sterol oxidation mediates stress-responsive Vms1 translocation to mitochondria. *Mol. Cell* **68**(4), 673-685 (2017).
2. Kuria, K.A.M., Chepkwony, H., Govaerts, C., *et al.* The antiplasmodial activity of isolates from *Ajuga remota*. *J. Nat. Prod.* **65**(5), 789-793 (2002).
3. Russo, A., Cardile, V., Piovano, M., *et al.* Pro-apoptotic activity of ergosterol peroxide and (22E)-ergosta-7,22-dien-5 $\alpha$ -hydroxy-3,6-dione in human prostate cancer cells. *Chem. Biol. Interact.* **184**(3), 352-358 (2010).
4. Kobori, M., Yoshida, M., Ohnishi-Kameyama, M., *et al.* Ergosterol peroxide from an edible mushroom suppresses inflammatory responses in RAW264.7 macrophages and growth of HT29 colon adenocarcinoma cells. *Br. J. Pharmacol.* **150**(2), 209-219 (2007).
5. Yasukawa, K., Aoki, T., Takido, M., *et al.* Inhibitory effects of ergosterol isolated from the edible mushroom *Hypsizigus marmoreus* on TPA-induced inflammatory ear oedema and tumour promotion in mice. *Phytother. Res.* **8**(1), 10-13 (1994).
6. Nam, K.S., Jo, Y.S., Kim, Y.H., *et al.* Cytotoxic activities of acetoxyscirpenediol and ergosterol peroxide from *Paecilomyces tenuipes*. *Life Sci.* **69**(2), 229-237 (2001).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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