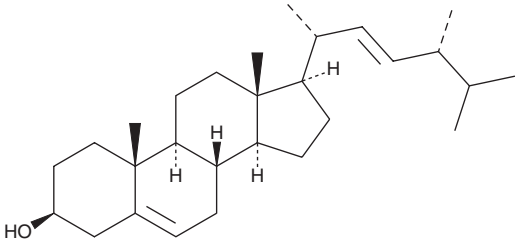
PRODUCT INFORMATION

Brassicasterol

Item No. 22296

CAS Registry No.:	474-67-9
Formal Name:	ergosta-5,22E-dien-3β-ol
MF:	$C_{28}H_{46}O$
FW:	398.7
Purity:	≥95%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

Brassicasterol is supplied as a crystalline solid. A stock solution may be made by dissolving the brassicasterol in the solvent of choice. Brassicasterol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of brassicasterol in these solvents is approximately 20, 0.1, and 2 mg/ml, respectively.

Brassicasterol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, brassicasterol should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Brassicasterol has a solubility of approximately 0.3 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Brassicasterol is a phytosterol found in canola and rapeseed oils, marine algae, and shellfish.[1] It inhibits recombinant sterol Δ^{24}-reductase with a K_i value of 42.7 µM *in vitro*. Brassicasterol increases accumulation of desmosterol, a cholesterol precursor and substrate of sterol Δ^{24}-reductase, and inhibits cholesterol formation in HL-60 cells in a dose-dependent manner. It also inhibits the hemolytic activity of pneumolysin from *S. pneumoniae* without affecting bacterial growth at concentrations up to 1,000 µg/ml.[2]

References

1. Fernández, C., Suárez, Y., Ferruelo, A.J., *et al.* Inhibition of cholesterol biosynthesis by Δ^{22}-unsaturated phytosterols via competitive inhibition of sterol Δ^{24}-reductase in mammalian cells. *Biochem. J.* **366(Pt 1)**, 109-119 (2002).
2. Li, H., Zhao, X., Deng, X., *et al.* Insights into structure and activity of natural compound inhibitors of pneumolysin. *Sci. Rep.* **7:42015** (2017).

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