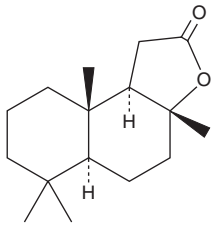
PRODUCT INFORMATION

Sclareolide

Item No. 31371

CAS Registry No.:	564-20-5
Formal Name:	(3aR,5aS,9aS,9bR)-decahydro-3a,6,6,9a-tetramethyl-naphtho[2,1-b]furan-2(1H)-one
Synonyms:	Norambreinolide, (+)-Sclareolide, (R)-(+)-Sclareolide
MF:	$C_{16}H_{26}O_2$
FW:	250.4
Purity:	≥98%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Synthetic



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

Laboratory Procedures

Sclareolide is supplied as a crystalline solid. A stock solution may be made by dissolving the sclareolide in the solvent of choice, which should be purged with an inert gas. Sclareolide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of sclareolide in these solvents is approximately 10, 15, and 30 mg/ml, respectively.

Sclareolide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, sclareolide should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Sclareolide has a solubility of approximately 0.33 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Sclareolide is a sesquiterpene lactone that has been found in *Salvia* and has diverse biological activities.[1-4] It inhibits mycelial growth in the phytopathogenic fungi *B. cinerea*, *F. coeruleum*, *C. lunata*, *F. graminearum*, and *A. brassicae* by 33.93, 67.14, 27.04, 46.22, and 32.48%, respectively, when used at a concentration of 100 µg/ml.[1] Sclareolide is an Ebola virus entry inhibitor that reduces infection of HEK293T cells by an HIV-based virus system pseudotyped with Ebola virus glycoprotein (EC_{50} = 8 µM).[2] It inhibits nitric oxide production in LPS-stimulated BV-2 cells (IC_{50} = 20.3 µM).[3] Sclareolide (5, 10, and 20 µM) enhances gemcitabine-induced cell death in gemcitabine-resistant PANC-1 and AsPC-1 human pancreatic cancer cells.[4]

References

1. Ma, M., Feng, J., Li, R., *et al.* Synthesis and antifungal activity of ethers, alcohols, and iodohydrin derivatives of sclareol against phytopathogenic fungi in vitro. *Bioorg. Med. Chem. Lett.* **25(14)**, 2773-2777 (2015).
2. Chen, Q., Tang, K., and Guo, Y. Discovery of sclareol and sclareolide as filovirus entry inhibitors. *J. Asian Nat. Prod. Res.* **22(5)**, 464-473 (2020).
3. Kim, C.S., Oh, J., Subedi, L., *et al.* Structural characterization of terpenoids from *Abies holophylla* using computational and statistical methods and their biological activities. *J. Nat. Prod.* **81(8)**, 1795-1802 (2018).
4. Chen, S., Wang, Y., Zhang, W.L., *et al.* Sclareolide enhances gemcitabine-induced cell death through mediating the NICD and Gli1 pathways in gemcitabine-resistant human pancreatic cancer. *Mol. Med. Rep.* **15(4)**, 1461-1470 (2017).

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