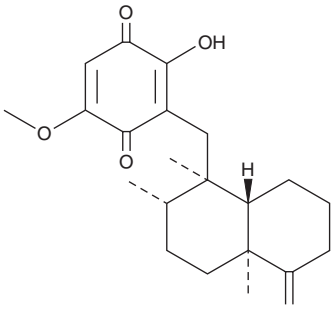
PRODUCT INFORMATION

Ilimaquinone

Item No. 15124

CAS Registry No.:	71678-03-0
Formal Name:	3-[[(1R,2S,4aS,8aS)-decahydro-1,2,4a-trimethyl-5-methylene-1-naphthalenyl]methyl]-2-hydroxy-5-methoxy-2,5-cyclohexadiene-1,4-dione
MF:	$C_{22}H_{30}O_4$
FW:	358.5
Purity:	≥98%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Anthelia* sp.



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

Laboratory Procedures

Ilimaquinone is supplied as a solid. A stock solution may be made by dissolving the ilimaquinone in the solvent of choice. Ilimaquinone is soluble in organic solvents such as methanol, ethanol, DMSO, and hexane, which should be purged with an inert gas.

Description

Ilimaquinone is a natural sesquiterpene quinone that has antimicrobial, anti-HIV, anti-mitotic, and anti-inflammatory properties.[1] In mammalian cells, 25 µM ilimaquinone reversibly induces vesiculation of Golgi membranes, blocking the secretory pathway.[2,3] It inhibits the conversion of S-adenosylhomocysteine (SAH) to homocysteine by SAH hydrolase (IC_{50} = 40 µM).[1,4] Ilimaquinone also inhibits DNA polymerase β and dual specificity phosphatase Cdc25B (IC_{50} = 45.2 and 92 µM, respectively) and, at 10 µM, activates gene expression through hypoxia-inducible factor-1.[5,6]

References

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2. Takizawa, P.A., Yucel, J.K., Veit, B., *et al*. Complete vesiculation of golgi membranes and inhibition of protein transport by a novel sea sponge metabolite, ilimaquinone. *Cell* **73(6),** 1079-1090 (1993).
3. Cruciani, V., Leithe, E., and Mikalsen, S.O. Ilimaquinone inhibits gap-junctional communication prior to Golgi fragmentation and block in protein transport. *Exp. Cell Res*. **287(1)**, 130-142 (2003).
4. Kim, B.G., Chun, T.G., Lee, H.Y., *et al.* A new structural class of S-adenosylhomocysteine hydrolase inhibitors. *Bioorg. Med. Chem.* **17(18)**, 6707-6714 (2009).
5. Cao, S., Gao, Z., Thomas, S.J., *et al.* Marine sesquiterpenoids that inhibit the lyase activity of DNA polymerase β. *J. Nat. Prod*. **67(10)**, 1716-1718 (2004).
6. Du, L., Zhou, Y.D., and Nagle, D.G. Inducers of hypoxic response: Marine sesquiterpene quinones activate HIF-1. *J. Nat. Prod*. **76(6)**, 1175-1181 (2013).

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