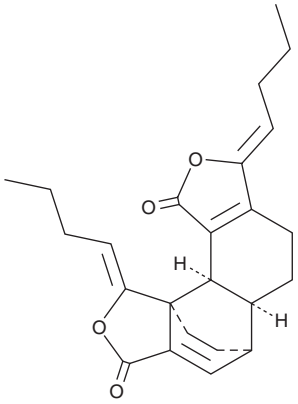
PRODUCT INFORMATION

Levistolide A

Item No. 34386

CAS Registry No.:	88182-33-6
Formal Name:	(1Z,5S,5aS,8Z,10bS,10cS)-1,8-dibutylidene-5,5a,6,7,8,10b-hexahydro-1H-5,10c-ethanonaphtho[1,2-c:7,8-c′]difuran-3,10-dione
Synonyms:	(Z,Z')-Diligustilide, Z-Ligustilide Dimer
MF:	$C_{24}H_{28}O_4$
FW:	380.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 231, 277 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Ligusticum chuanxiong*



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

Laboratory Procedures

Levistolide A is supplied as a solid. A stock solution may be made by dissolving the levistolide A in the solvent of choice, which should be purged with an inert gas. Levistolide A is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of levistolide A in these solvents is approximately 10, 20, and 30, respectively.

Levistolide A is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, levistolide A should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Levistolide A has a solubility of approximately 0.3 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

Levistolide A is a phthalide that has been found in *Angelica tenuissima* and has diverse biological activities.[1-4] It inhibits histamine release induced by phorbol 12-myristate 13-acetate (TPA; Item No. 10008014) and A23187 from HMC-1 human mast cell leukemia cells when used at a concentration of 10 µM.[1] Levistolide A (100 µM) induces the production of reactive oxygen species (ROS), endoplasmic reticulum (ER) stress, and apoptosis in HCT116 colon cancer cells.[2] It prevents ethanol-induced gastric ulcers in rats when administered at a dose of 10 mg/kg.[3] Levistolide A (2 mg/kg) decreases aggregation of amyloid-β in brain and improves spatial and learning memory in the APP/PS1 transgenic mouse model of Alzheimer's disease.[4]

References

1. Choi, H.G., Je, I.-G., Kim, G.J., *et al.* Chemical constituents of the root of *Angelica tenuissima* and their anti-allergic inflammatory activity. *Nat. Prod. Commun.* **12(5)**, 779-780 (2017).
2. Yang, Y., Zhang, Y., Wang, L., *et al.* Levistolide A induces apoptosis *via* ROS-mediated ER stress pathway in colon cancer cells. *Cell. Physiol. Biochem.* **42(3)**, 929-938 (2017).
3. Velázquez-Moyado, J.A., Martínez-González, A., Linares, E., *et al.* Gastroprotective effect of diligustilide isolated from roots of *Ligusticum porteri* coulter & rose (Apiaceae) on ethanol-induced lesions in rats. *J. Ethnopharmacol.* **174**, 403-409 (2015).
4. Qu, X., Guan, P., Han, L., *et al.* Levistolide A attenuates Alzheimer's pathology through activation of the PPARγ pathway. *Neurotherapeutics* **18(1)**, 326-339 (2021).

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