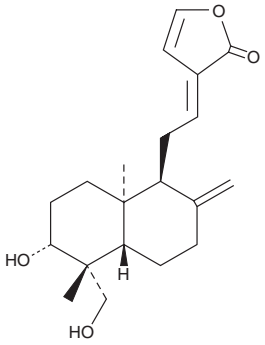
PRODUCT INFORMATION

Dehydroandrographolide

Item No. 31625

CAS Registry No.:	134418-28-3
Formal Name:	3E-[2-[(1S,4aS,5R,6R,8aS)-decahydro-6-hydroxy-5-(hydroxymethyl)-5,8a-dimethyl-2-methylene-1-naphthalenyl]ethylidene]-2(3H)-furanone
MF:	$C_{20}H_{28}O_4$
FW:	332.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 250 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Andrographis paniculata*



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

Laboratory Procedures

Dehydroandrographolide is supplied as a solid. A stock solution may be made by dissolving the dehydroandrographolide in the solvent of choice, which should be purged with an inert gas. Dehydroandrographolide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of dehydroandrographolide in ethanol is approximately 1 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Dehydroandrographolide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, dehydroandrographolide should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Dehydroandrographolide has a solubility of approximately 0.12 mg/ml in a 1:7 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Dehydroandrographolide is a diterpene that has been found in *A. paniculata* and has diverse biological activities.[1-3] It inhibits DNA replication of hepatitis B virus (HBV) in HepG2 2.2.15 cells (IC_{50} = 22.6 µM). Dehydroandrographolide (50 µM) inhibits anoctamin 1 (ANO1), also known as TMEM16A, chloride currents in Fisher rat thyroid cells expressing human ANO1 and SW620 colorectal cancer cells.[2] It inhibits the proliferation of SW620 colorectal cancer cells in a concentration-dependent manner. Dehydroandrographolide reduces the release of histamine, tryptase beta, β-hexosaminidase, TNF-α, and chemokine (C-C motif) ligand 2 (CCL2), as well as inhibits cellular degranulation induced by the neuropeptide substance P (SP), in LAD 2 and mouse primary mast cells in a concentration-dependent manner.[3] It upregulates phosphorylation of Src homology region 2 domain-containing phosphatase 1 (SHP-1) and SHP-2 in LAD 2 cells with *CD300f* knocked down using siRNA when used at a concentration of 50 µM. Dehydroandrographolide inhibits SP-induced mast cell degranulation and reduces mouse serum levels of histamine, tryptase beta 2, TNF-α, CCL2, and chemokine (C-X-C) ligand 2 (CXCL2) *in vivo* when administered at a dose of 1 or 2 mg/kg.

References

1. Chen, H., Ma, Y.-B., Huang, X.-Y., *et al. Bioorg. Med. Chem. Lett.* **24(10)**, 2353-2359 (2014).
2. Sui, Y., Wu, F., Lv, J., *et al. PLoS One* **10(12)**, e0144715 (2015).
3. Che, D., Zheng, Y., Hou, Y., *et al. Phytother. Res.* **36(5)**, 2173-2185 (2022).

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