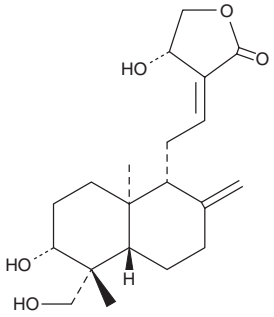
PRODUCT INFORMATION

Andrographolide

Item No. 11679

CAS Registry No.:	5508-58-7
Formal Name:	3E-[2-[(1R,4aS,5R,6R,8aS)-decahydro-6-hydroxy-5-(hydroxymethyl)-5,8a-dimethyl-2-methylene-1-naphthalenyl]ethylidene] dihydro-4S-hydroxy-2(3H)-furanone
MF:	$C_{20}H_{30}O_5$
FW:	350.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 225 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

Andrographolide is supplied as a crystalline solid. A stock solution may be made by dissolving the andrographolide in the solvent of choice. Andrographolide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of andrographolide in these solvents is approximately 0.2, 3, and 14 mg/ml, respectively.

Andrographolide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, andrographolide should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Andrographolide has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Andrographolide is a labdane diterpenoid that is the main bioactive component of *A. paniculata*, a well-recognized medicinal plant in Asia. It exerts a wide range of therapeutic actions, including immunosuppressant, antithrombotic, anti-inflammatory, antineoplastic, antiviral, antibacterial, antidiabetic, antioxidative stress, antipyretic, antiedematogenic, and antinociceptive activities.[1] Andrographolide treatment inhibits nuclear factor kappa B (NF-κB) binding to DNA promoters of target genes (IC_{50} = ~15 µM), by forming a covalent adduct with reduced cysteine (62) of the NF-κB p50 subunit, and can also induce expression of the CYP1A subfamily of the cytochrome P450 family of enzymes.[2,3] At 5 µg/g body weight it can suppress the activation of NF-κB in stimulated endothelial cells, reducing the expression of the cell adhesion molecule E-selectin, abrogating the cytokine- and endotoxin-induced peritoneal infiltration of neutrophils, attenuating septic shock, and preventing allergic lung inflammation in a mouse model of asthma.[3]

References

1. Jarukamjorn, K. and Nemoto, N. Pharmacological aspects of *Andrographis paniculata* on health and its major diterpenoid constituent andrographolide. *J. Health Sci.* **54(4)**, 370-381 (2008).
2. Varma, A., Padh, H., and Shrivastava, N. Andrographolide: A new plant-derived antineoplastic entity on horizon. *Evid. Based Complement. Alternat. Med.* **2011**, 1-9 (2011).
3. Xia, Y.-F., Ye, B.-Q., Li, Y.-D., *et al.* Andrographolide attenuates inflammation by inhibition of NF-κB activation through covalent modification of reduced cysteine 62 of p50. *J. Immunol.* **173(6)**, 4207-4217 (2004).

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