

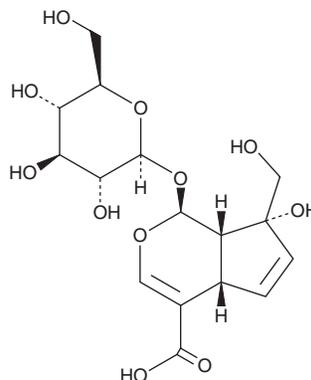
PRODUCT INFORMATION



Monotropein

Item No. 27595

CAS Registry No.: 5945-50-6
Formal Name: (1S,4aS,7R,7aS)-1-(β-D-glucopyranosyloxy)-1,4a,7,7a-tetrahydro-7-hydroxy-7-(hydroxymethyl)-cyclopenta[c]pyran-4-carboxylic acid
Synonyms: NSC 291303, NSC 88926
MF: C₁₆H₂₂O₁₁
FW: 390.3
Purity: ≥98%
UV/Vis.: λ_{max}: 236 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Plant/*Morinda officinalis* radix



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

Description

Monotropein is an iridoid glycoside originally isolated from *M. officinalis* roots and has diverse biological activities.¹⁻⁵ It increases cell viability and migration of bone marrow-derived endothelial progenitor cells (BM-EPCs) when used at concentrations ranging from 0.1 to 1,000 μM.¹ Monotropein inhibits apoptosis and reduces levels of matrix metalloproteinase-3 (MMP-3) and MMP-13 in chondrocytes.² It inhibits LPS-induced nuclear translocation of NF-κB and reduces COX-2, inducible nitric oxide synthase (iNOS), TNF-α, and IL-1β mRNA expression in RAW 264.7 cells.³ Monotropein (100 and 200 mg/kg) reduces colonic myeloperoxidase (MPO) activity, COX-2 and iNOS mRNA expression, and disease severity in a mouse model of ulcerative colitis induced by dextran sulfate sodium (DSS; Item No. 23250). It increases bone mineral content, bone mineral density, and improves bone microstructure in ovariectomized mice when administered at doses of 40 or 80 mg/kg.⁴ Monotropein (20 and 30 mg/kg) reduces acetic acid-induced writhing in mice and carrageenan-induced paw edema in rats.⁵ It also decreases macrophage infiltration and wound healing time and increases blood vessel formation in a rat model of wound healing.¹

References

1. Wang, C., Mao, C., Lou, Y., et al. *J. Cell. Mol. Med.* **22**(3), 1583-1600 (2018).
2. Wang, F., Wu, L., Li, L., et al. *Int. Immunopharmacol.* **23**(2), 575-580 (2014).
3. Shin, J.-S., Yun, K.-J., Chung, K.-S., et al. *Food Chem. Toxicol.* **53**, 263-271 (2013).
4. Zhang, Z., Zhang, Q., Yang, H., et al. *Fitoterapia* **110**, 166-172 (2016).
5. Choi, J., Lee, K.-T., Choi, M.-Y., et al. *Biol. Pharm. Bull.* **28**(10), 1915-1918 (2005).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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