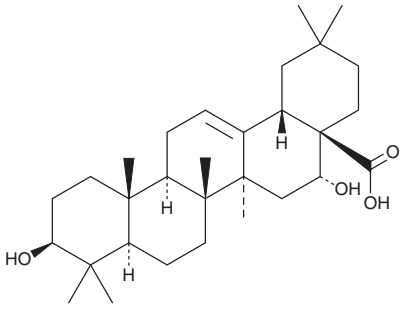
PRODUCT INFORMATION

Echinocystic Acid

Item No. 27476

CAS Registry No.:	510-30-5
Formal Name:	3β,16α-dihydroxy-olean-12-en-28-oic acid
MF:	$C_{30}H_{48}O_4$
FW:	472.7
Purity:	≥95%
UV/Vis.:	λ_{max}: 258 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Albizia julibrissin*



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

Laboratory Procedures

Echinocystic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the echinocystic acid in the solvent of choice, which should be purged with an inert gas. Echinocystic acid is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of echinocystic acid in these solvents is approximately 30 mg/ml.

Echinocystic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, echinocystic acid should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Echinocystic acid has a solubility of approximately 0.33 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Echinocystic acid is a triterpene that has been found in *G. sinensis* and has diverse biological activities.[1-5] It induces nuclear translocation of the glucocorticoid receptor (GR) and reduces TNF-α-induced NF-κB signaling in HEK293 cells overexpressing GFP-GR.[1] Echinocystic acid (12.5, 25, and 50 µM) suppresses RANKL-induced NF-κB activation, ERK phosphorylation, and osteoclastogenesis in mouse bone marrow macrophages (BMMs).[2] It induces neurite outgrowth in Neuro2A cells in a concentration-dependent manner, an effect that can be blocked by the JNK inhibitor SP600125 (Item No. 10010466).[3] *In vivo*, echinocystic acid (10 mg/kg per day) decreases escape latency in the Morris water maze and increases the length of neurite processes in the hippocampus of aged mice. Topical administration of echinocystic acid reduces expression of COX-2, inducible nitric oxide synthase (iNOS), TNF-α, and IL-1β and ear edema induced by phorbol 12-myristate 13-acetate (TPA; Item No. 10008014) in a mouse model of dermatitis.[4] Echinocystic acid also recovers reductions in femoral bone mineral density and trabecular thickness and number in a rat model of ovariectomy-induced osteoporosis.[5]

References

1. Georgatza, D., Gorgogietas, V.A., Kylindri, P., *et al. Int. J. Biochem. Cell Biol.* **79**, 277-287 (2016).
2. Yang, J.-h., Li, B., Wu, Q., *et al. Biochem. Biophys. Res. Commun.* **477(4)**, 673-677 (2016).
3. Park, H.J., Kwon, H., Lee, S., *et al. Biol. Pharm. Bull.* **40(10)**, 1724-1729 (2017).
4. Joh, E.-H., Jeong, J.-J., and Kim, D.-H. *Arch. Pharm. Res.* **37(2)**, 225-231 (2014).
5. Deng, Y.-t., Kang, W.-b., Zhao, J.-n., *et al. PLoS One* **10(8)**, e0136572 (2015).

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.

WARRANTY AND LIMITATION OF REMEDY
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