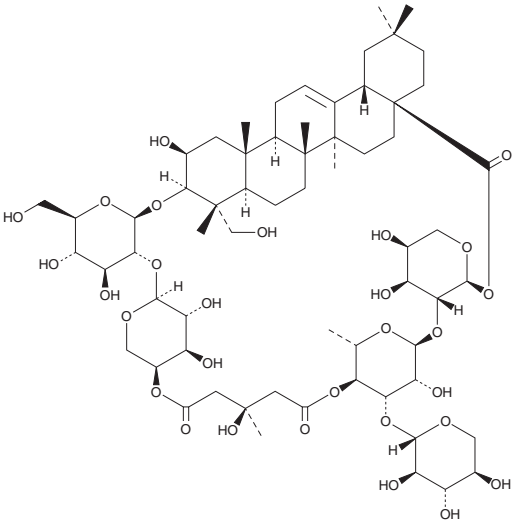
PRODUCT INFORMATION

Tubeimoside I

Item No. 22276



CAS Registry No.:	102040-03-9
Formal Name:	(2β,3β,4α)-olean-12-en-28-oic acid, 3-[[2-O-[4-O-[(3S)-4-carboxy-3-hydroxy-3-methyl-1-oxobutyl]-α-L-arabinopyranosyl]-β-D-glucopyranosyl]oxy]-2,23-dihydroxy-28-(O-β-D-xylopyranosyl-(1→3)-O-6-deoxy-α-L-mannopyranosyl-(1→2)-α-L-arabinopyranosyl) ester, intramol. 4''(3)→4''(28)-ester
Synonyms:	Lobatoside H, Tubeimoside A
MF:	$C_{63}H_{98}O_{29}$
FW:	1,319.4
Purity:	≥98%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years

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

Laboratory Procedures

Tubeimoside I is supplied as a crystalline solid. A stock solution may be made by dissolving the tubeimoside I in the solvent of choice. Tubeimoside I is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of tubeimoside I in these solvents is approximately 1 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of tubeimoside I can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of tubeimoside I in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Tubeimoside I is a natural triterpenoid saponin isolated from the medicinal herb *B. paniculatum* which possesses broad anticancer activity.[1-4] Tubeimoside I exhibits antiproliferative activity against hepatoma HepG2 cells (IC_{50} = 15.5 µM) and induces nuclear condensation and fragmentation, cell cycle arrest, mitochondrial membrane disruption, and activation of caspase-3 and caspase-9.[1] Treatment of HeLa cells with tubeimoside I (IC_{50} = 25 µM) similarly initiates mitochondrial dysfunction, endoplasmic reticulum stress, and cytoskeletal rearrangement.[2] *In vivo*, tubeimoside I (5 mg/kg) administration to nude mice with flank xenografts of human large-cell lung carcinoma cells decreases tumor volume and microvessel density.[3] It also decreases metastasis of breast cancer cell line MDA-MB-231 *in vivo* by decreasing expression of C-X-C chemokine receptor type 4 (CXCR4).[4]

References

1. Wang, Y., Deng, L., Zhong, H., *et al. Biol. Pharm. Bull.* **34(6)**, 831-838 (2011).
2. Xu, Y., Chiu, J.F., He, Q.Y., *et al. J. Proteome Res.* **8(3)**, 1585-1593 (2009).
3. Gu, Y., Körbel, C., Scheuer, C., *et al. Oncotarget* **7(5)**, 5258-5272 (2016).
4. Peng, Y., Zhong, Y., and Li, G. *BMB Rep.* **49(9)**, 502-507 (2016).

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