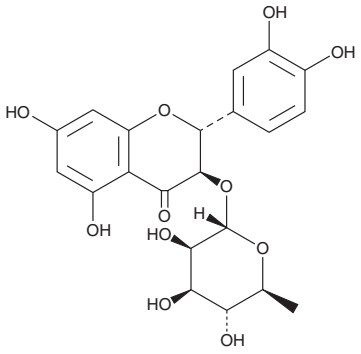
PRODUCT INFORMATION

Astilbin

Item No. 28267

CAS Registry No.:	29838-67-3
Formal Name:	(2R,3R)-3-[(6-deoxy-α-L-mannopyranosyl)oxy]-2-(3,4-dihydroxyphenyl)-2,3-dihydro-5,7-dihydroxy-4H-1-benzopyran-4-one
Synonym:	Taxifolin 3-O-rhamnoside
MF:	$C_{21}H_{22}O_{11}$
FW:	450.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 292 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Engelhardtia roxburghiana* Wall.



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

Laboratory Procedures

Astilbin is supplied as a crystalline solid. A stock solution may be made by dissolving the astilbin in the solvent of choice, which should be purged with an inert gas. Astilbin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of astilbin in ethanol is approximately 1 mg/ml and approximately 10 mg/ml in DMSO and DMF.

Astilbin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, astilbin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Astilbin has a solubility of approximately 0.1 mg/ml in a 1:10 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Astilbin is a flavonoid that has been found in *S. glabra* and has diverse biological activities.[1-3] It inhibits cisplatin-induced increases in apoptosis and accumulation of reactive oxygen species (ROS) in HEK293 cells when used at a concentration of 200 µM.[1] Astilbin (50 mg/kg) increases renal glutathione (GSH) levels and superoxide dismutase (SOD) and catalase activity and reduces serum creatinine and blood urea nitrogen (BUN) levels, renal IL-1β, IL-6, and TNF-α levels, apoptosis in kidney tissue, and kidney injury in a mouse model of cisplatin-induced nephrotoxicity. It reduces loss of dopaminergic neurons in the substantia nigra and increases striatal GSH levels and SOD activity in a mouse model of MPTP-induced Parkinson's disease when administered at a dose of 50 mg/kg per day.[2] Astilbin also reduces descent time in a pole test and increases traction test score in a mouse model of Parkinson's disease, indicating reduced motor deficits. It reduces cell viability of MDA-MB-231 and MCF-7 cells (IC_{50}s = 167.9 and 191.6 µM, respectively), as well as inhibits migration and increases apoptosis when used at concentrations of 50 and 200 µM.[3] Astilbin (20 mg/kg every other day for 14 days) reduces tumor growth in an MCF-7 mouse xenograft model.

References

1. Wang, S.-w., Xu, Y., Weng, Y.-y., *et al. Food Chem. Toxicol.* **114**, 227-236 (2018).
2. Zhu, Y.-L., Sun, M.-F., Jia, X.-B., *et al. Int. Immunopharmacol.* **66**, 19-27 (2019).
3. Sun, X., Zhang, H., Zhang, Y., *et al. Oncol. Rep.* **40(4)**, 2278-2286 (2018).

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