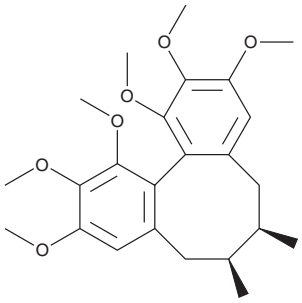
PRODUCT INFORMATION

Schisandrin A

Item No. 19849

CAS Registry No.:	61281-38-7
Formal Name:	(6R,7S,12aR)-5,6,7,8-tetrahydro-1,2,3,10,11,12-hexamethoxy-6,7-dimethyl-dibenzo[a,c]cyclooctene
Synonyms:	Deoxyschizandrin, Wuweizisu A
MF:	$C_{24}H_{32}O_6$
FW:	416.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 217 nm
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

Schisandrin A is supplied as a crystalline solid. A stock solution may be made by dissolving the schisandrin A in the solvent of choice, which should be purged with an inert gas. Schisandrin A is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of schisandrin A in ethanol and DMSO is approximately 20 mg/ml and approximately 25 mg/ml in DMF.

Schisandrin A is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, schisandrin A should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Schisandrin A has a solubility of approximately 0.11 mg/ml in a 1:8 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Schisandrin A is a lignan that has been found in *Schisandra* and has diverse biological activities.[1-4] It binds to adiponectin receptor 2 (IC_{50} = 3.2 µM).[1] Schisandrin A (10, 20, and 50 µM) reduces LPS-induced production of nitric oxide (NO), IL-6, and TNF-α and apoptosis in primary mouse microglial cells.[2] It reverses P-glycoprotein-mediated doxorubicin resistance in MCF-7/dox cells when used at a concentration of 20 µM.[3] Schisandrin A (4, 12, and 36 mg/kg) reverses short-term and spatial memory deficits, as well as decreases in cerebral superoxide dismutase (SOD) and glutathione peroxidase (GPX) activities induced by amyloid β (1-42) (Aβ42; Item No. 20574) in a mouse model of Alzheimer's disease.[4]

References

1. Sun, Y., Zang, Z., Zhong, L., *et al.* Identification of adiponectin receptor agonist utilizing a fluorescence polarization based high throughput assay. *PLoS One* **8(5)**, e63354 (2013).
2. Song, F., Zeng, K., Liao, L., *et al.* Schizandrin A inhibits microglia-mediated neuroninflammation through inhibiting TRAF6-NF-κB and Jak2-stat3 signaling pathways. *PLoS One* **11(2)**, (2016).
3. Zhang, Z.-L., Jiang, Q.-C., and Wang, S.-R. Schisandrin A reverses doxorubicin-resistant human breast cancer cell line by the inhibition of P65 and Stat3 phosphorylation. *Breast Cancer* **25(2)**, 233-242 (2018).
4. Hu, D., Li, C., Han, N., *et al.* Deoxyschizandrin isolated from the fruits of *Schisandra chinensis* ameliorates $Aβ_{1-42}$-induced memory impairment in mice. *Planta Med.* **78(12)**, 1332-1336 (2012).

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