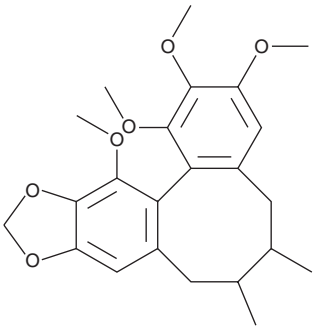
PRODUCT INFORMATION

Schizandrin B

Item No. 24968

CAS Registry No.:	61281-37-6
Formal Name:	(6R,7S,13aR)-*rel*-5,6,7,8-tetrahydro-1,2,3,13-tetramethoxy-6,7-dimethyl-benzo[3,4]cycloocta[1,2-f][1,3]benzodioxole
Synonym:	Wuweizisu B
MF:	$C_{23}H_{28}O_6$
FW:	400.5
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

Schizandrin B is supplied as a crystalline solid. A stock solution may be made by dissolving the schizandrin B in the solvent of choice, which should be purged with an inert gas. Schizandrin B is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of schizandrin B in these solvents is approximately 2, 5, and 30 mg/ml, respectively.

Schizandrin B is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, schizandrin B should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Schizandrin B has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Schizandrin B is a dibenzocyclooctadiene that has been found in *F. schisandrae* and *S. chinensis* with diverse biological activities.[1-3] Schizandrin B (50 µM) completely inhibits anti-CD3- and anti-CD28-induced release of the cytokines IL-2, IL-3, IL-4, IL-6, and IFN-γ in T cells.[4] In A549 adenocarcinoma cells, schizandrin B (1-30 µM) dose-dependently reduces cell survival and UV-induced phosphorylation of p53 and checkpoint kinase 1 (Chk1).[1] Schizandrin B reduces kinase activity of the serine/threonine-protein kinase ATR with an IC_{50} value of 7.25 µM for the recombinant enzyme. *In vivo*, schizandrin B (25-100 mg/kg, p.o.) dose-dependently inhibits lipid peroxidation, formation of DNA strand breaks, and NADPH oxidase-dependent oxygen production induced by doxorubicin (Item No. 15007) in mouse heart.[2] It also reduces the expression of p53, 3-nitrotyrosine, phosphorylated p38 MAPK and MAPKAPK-2, and matrix metalloproteinase-2 (MMP-2) and MMP-9. Schizandrin B (1 or 2 mmol/kg per day, p.o.) pretreatment reduces *tert*-butylhydroperoxide-induced mortality and malondialdehyde formation and increases glutathione (GSH) levels and Se-glutathione peroxidase (GSH-Px) activity in brain in mice.[3]

References

1. Nishida, H., Tatewaki, N., Nakajima, Y., *et al. Nucleic Acids Res.* **37(17)**, 5678-5689 (2009).
2. Thandavarayan, R.A., Giridharan, V.V., Arumugam, S., *et al. PLoS One* **10(3)**, e0119214 (2015).
3. Ko, K.M. and Lam, B.Y. *Mol. Cell. Biochem.* **238(1-2)**, 181-186 (2002).
4. Checker, R., Patwardhan, R.S., Sharma, D., *et al. Free Radic. Biol. Med.* **53(7)**, 1421-1430 (2012).

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