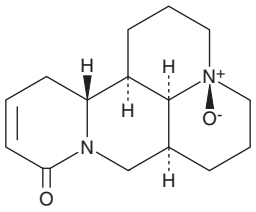
PRODUCT INFORMATION

Oxysophocarpine

Item No. 28305

CAS Registry No.:	26904-64-3
Formal Name:	(4R,7aS,13aR,13bR,13cS)-2,3,6,7,7a,8,13,13a,13b,13c-decahydro-1H,5H,10H-dipyrido[2,1-f:3',2',1'-ij][1,6]naphthyridin-10-one, 4-oxide
Synonyms:	(+)-Oxysophocarpine, Sophocarpine N-oxide
MF:	$C_{15}H_{22}N_2O_2$
FW:	262.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 262 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Sophora flavescens* Ait.



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

Laboratory Procedures

Oxysophocarpine is supplied as a crystalline solid. A stock solution may be made by dissolving the oxysophocarpine in the solvent of choice, which should be purged with an inert gas. Oxysophocarpine is soluble in organic solvents such as ethanol and DMSO. The solubility of oxysophocarpine in these solvents is approximately 10 and 1 mg/ml, respectively.

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 oxysophocarpine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of oxysophocarpine in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Oxysophocarpine is an alkaloid that has been found in *S. flavescens* and has diverse biological activities, including neuroprotective, anticancer, anti-inflammatory, and analgesic properties.[1-3] It increases cell survival and decreases lactate dehydrogenase (LDH) leakage and loss of mitochondrial membrane potential in rat primary hippocampal neurons in a model of oxygen-glucose deprivation and reperfusion injury when used at concentrations of 1, 2, and 5 µM.[1] Oxysophocarpine (5 µM) inhibits proliferation and reduces migration and invasion of SCC-9 and SCC-15 oral squamous cell carcinoma (OSCC) cells *in vitro*.[2] It reduces tumor growth in an SCC-9 mouse xenograft model when administered at a dose of 80 mg/kg. Oxysophocarpine (40 and 80 mg/kg) inhibits xylene-induced ear swelling and carrageenan-induced paw edema in mice.[3] It also reduces carrageenan-induced decreases in the paw withdrawal threshold and prevents carrageenan-induced increases in paw tissue levels of TNF-α, IL-1β, IL-6, and prostaglandin E_2 (PGE_2; Item No. 14010) in mice when administered at a dose of 80 mg/kg.

References

1. Zhu, Q.-L., Li, Y.-X., Zhou, R., *et al. Pharm. Biol.* **52(8)**, 1052-1059 (2014).
2. Liu, R., Peng, J., Wang, H., *et al. Cell Physiol. Biochem.* **49(5)**, 1717-1733 (2018).
3. Yang, Y., Li, Y.-X., Wang, H.-L., *et al. Planta Med.* **81(10)**, 791-797 (2015).

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