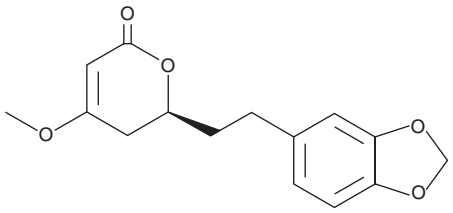
PRODUCT INFORMATION

Dihydromethysticin

Item No. 27644

CAS Registry No.:	19902-91-1
Formal Name:	(6S)-6-[2-(1,3-benzodioxol-5-yl)ethyl]-5,6-dihydro-4-methoxy-2H-pyran-2-one
Synonyms:	DHM, 7,8-dihydro Methysticin, NSC 112159
MF:	$C_{15}H_{16}O_5$
FW:	276.3
Purity:	≥98%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Synthetic



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

Laboratory Procedures

Dihydromethysticin is supplied as a solid. A stock solution may be made by dissolving the dihydromethysticin in the solvent of choice, which should be purged with an inert gas. Dihydromethysticin is soluble in methanol and chloroform.

Description

Dihydromethysticin is a kavalactone originally isolated from *P. methysticum* (kava-kava) that has diverse biological activities, including efflux transporter inhibitory, antinociceptive, and neuroprotective properties.[1,2] Dihydromethysticin is a P-glycoprotein (P-gp) inhibitor that increases uptake of the P-gp substrate calcein AM (Item No. 14948) by 50% in P388 mouse leukemia cancer cells overexpressing P-gp when used at a concentration of 54.6 µM.[3] Dihydromethysticin (275 mg/kg) has analgesic activity, increasing the latency to tail withdrawal in the tail-flick assay in mice.[1] It also decreases the infarct size in a mouse model of ischemia induced by microbipolar coagulation of the left middle cerebral artery (MCA) when administered at a dose of 10 mg/kg.[2]

References

1. Jamieson, D.D. and Duffield, P.H. The antinociceptive actions of kava components in mice. *Clin. Exp. Pharmacol. Physiol.* **17(7)**, 495-507 (1990).
2. Backhauß, C. and Krieglstein, J. Extract of kava (*Piper methysticum*) and its methysticin constituents protect brain tissue against ischemic damage in rodent. *Eur. J. Pharmacol.* **215(2-3)**, 265-269 (1992).
3. Weiss, J., Sauer, A., Frank, A., *et al.* Extracts and kavalactones of *Piper methysticum* G. Forst (kava-kava) inhibit P-glycoprotein in vitro. *Drug Metab. Dispos.* **33(11)**, 1580-1583 (2005).

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