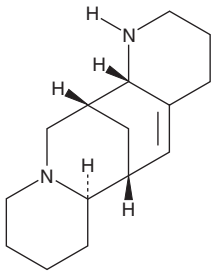
PRODUCT INFORMATION

Aloperine

Item No. 22259

CAS Registry No.:	56293-29-9
Formal Name:	1,3,4,6R,6aR,7,8,9,10,12,13R,13aS-dodecahydro-6,13-methano-2H-dipyrido[1,2-a:3',2'-e]azocine
MF:	$C_{15}H_{24}N_2$
FW:	232.4
Purity:	≥95%
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

Aloperine is supplied as a crystalline solid. A stock solution may be made by dissolving the aloperine in the solvent of choice. Aloperine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of aloperine in these solvents is approximately 20, 0.125, and 0.2 mg/ml, respectively.

Aloperine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, aloperine should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Aloperine has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Aloperine is an alkaloid found in the roots of *S. flavescens* with diverse biological activities including antiviral, anticancer, antioxidant, and anti-inflammatory actions.[1-4] It inhibits HIV-1 replication and envelope-mediated cell-cell fusion (EC_{50}s = 1.75 and 1.2 µM, respectively) at concentrations well below the cytotoxic concentration (CC_{50}) of >86.5 µM *in vitro*.[1] Aloperine inhibits the growth of HL-60, U937, and K562 leukemia cell lines with IC_{50} values of 40, 270, and 360 µM, respectively.[2] Administration of aloperine, at a dose of 60 mg/kg, reduces NOX2, NOX4, superoxide dismutase, and glutathione peroxidase expression in lungs in a rat model of pulmonary hypertension.[3] Topical administration of aloperine reduces ear swelling, ear erythema, and production of inflammatory cytokines TNF-α, IL-1β, and IL-6 in a mouse model of allergic contact dermatitis.[4]

References

1. Dang, Z., Zhu, L., Lai, W., *et al.* Aloperine and its derivatives as a new class of HIV-1 entry inhibitors. *ACS Med. Chem. Lett.* **7(3)**, 240-244 (2016).
2. Lin, Z., Huang, C.F., Liu, X.S., *et al. In vitro* anti-tumour activities of quinolizidine alkaloids derived from *Sophora flavescens Ait*. *Basic Clin. Pharmacol. Toxicol.* **108(5)**, 304-309 (2011).
3. Wu, F., Hao, Y., Yang, J., *et al.* Protective effects of aloperine on monocrotaline-induced pulmonary hypertension in rats. *Biomed Pharmacother.* **89**, 632-641 (2017).
4. Yuan, X.Y., Liu, W., Zhang, P., *et al.* Effects and mechanisms of aloperine on 2, 4-dinitrofluorobenzene-induced allergic contact dermatitis in BALB/c mice. *Eur. J. Pharmacol.* **629(1-3)**, 147-152 (2010).

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