

PRODUCT INFORMATION

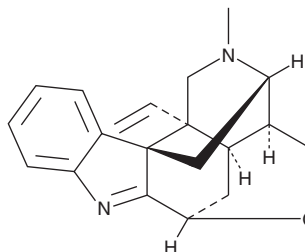


Koumine

Item No. 36210

CAS Registry No.: 1358-76-5
Formal Name: (3S,4S,4aR,6R,11bS,11cS)-11c-ethenyl-1,2,3,4,4a,5,6,11c-octahydro-2-methyl-6,4-(epoxymethano)-3,11b-methano-11bH-pyrido[4,3-c]carbazole

MF: $C_{20}H_{22}N_2O$
FW: 306.4
Purity: $\geq 98\%$
UV/Vis.: λ_{max} : 215, 221 nm
Supplied as: A solid
Storage: $-20^{\circ}C$
Stability: ≥ 4 years
Item No: Plant/*Gelsemium elegans*



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

Laboratory Procedures

Koumine is supplied as a solid. A stock solution may be made by dissolving the koumine in the solvent of choice, which should be purged with an inert gas. Koumine is soluble in DMSO.

Description

Koumine is an alkaloid that has been found in *Gelsemium elegans* and has diverse biological activities.¹⁻⁴ It inhibits the proliferation of MCF-7 breast cancer cells ($IC_{50} = 124 \mu g/ml$) as well as induces apoptosis and cell cycle arrest at the G₂/M phase in the same cells.¹ Koumine (200 and 400 $\mu g/ml$) reduces LPS-induced increases in inducible nitric oxide synthase (iNOS), IL-1 β , IL-6, and TNF- α levels in RAW 264.7 macrophages.² It inhibits acetic acid-induced writhing and formalin-induced paw licking and biting in mice when administered at doses of 2 and 10 mg/kg.³ Koumine (0.4-10 mg/kg) increases the number of entries into and percentage of time spent in the open arms of the elevated plus maze in mice, indicating anxiolytic-like activity.⁴

References

1. Zhang, X., Chen, Y., Gao, B., et al. Apoptotic effect of koumine on human breast cancer cells and the mechanism involved. *Cell Biochem. Biophys.* **72**(2), 411-416 (2015).
2. Yuan, Z., Matias, F.B., Wu, J., et al. Koumine attenuates lipopolysaccharide-stimulated inflammation in RAW264.7 macrophages, coincidentally associated with inhibition of NF- κ B, ERK and p38 pathways. *Int. J. Mol. Sci.* **17**(3), 430 (2016).
3. Liu, M., Huang, H.-H., Yang, J., et al. The active alkaloids of *Gelsemium elegans* Benth. are potent anxiolytics. *Psychopharmacology (Berl)* **225**(4), 839-851 (2013).
4. Xu, Y., Qiu, H.-Q., Liu, H., et al. Effects of koumine, an alkaloid of *Gelsemium elegans* Benth., on inflammatory and neuropathic pain models and possible mechanism with allopregnanolone. *Pharmacol. Biochem. Behav.* **101**(3), 504-514 (2012).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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