

PRODUCT INFORMATION



Gelsevirine

Item No. 39749

CAS Registry No.: 38990-03-3
Formal Name: (3'S,9S)-5-ethenyl-3R,4,4aR,5S,6,7,8S,8aS-octahydro-1'-methoxy-7-methyl-spiro[3,5,8-ethanylidene-1H-pyrano[3,4-c]pyridine-10,3'-[3H]indol]-2'(1'H)-one

MF: C₂₁H₂₄N₂O₃

FW: 352.4

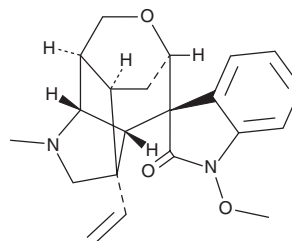
Purity: ≥98%

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years

Item Origin: Plant/*Gelsemium elegans*



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

Laboratory Procedures

Gelsevirine is supplied as a solid. A stock solution may be made by dissolving the gelsevirine in the solvent of choice, which should be purged with an inert gas. Gelsevirine is sparingly soluble (1-10 mg/ml) in methanol.

Description

Gelsevirine is an oxindole alkaloid that has been found in *G. elegans* and has anti-inflammatory activity.^{1,2} It binds to stimulator of interferon genes (STING; K_d = 27.6 μM) and prevents 2'3'-cGAMP-induced Sting dimerization in RAW 264.7 macrophages when used at a concentration of 5 μM.² Gelsevirine (10 μM) inhibits 2'3'-cGAMP-, poly(dA:dT) dsDNA-, or IFN-stimulatory DNA-induced increases in the levels of mRNA encoding chemokine (C-X-C motif) ligand 10 (CXCL10) and IL-6 in THP-1 monocytes and RAW 264.7 cells. It inhibits 2'3'-cGAMP-induced increases in the levels of Sting and phosphorylated IFN regulatory factor 3 (IRF3), p65, and TANK-binding kinase 1 (TBK1) in RAW 264.7 cells when used at a concentration of 5 μM. *In vivo*, gelsevirine (20 mg/kg) increases animal survival time, reduces lung injury and total protein levels in bronchoalveolar lavage fluid (BALF), and decreases serum levels of alanine transaminase (ALT), aspartate aminotransferase (AST), creatinine, IL-6, TNF-α, and blood urea nitrogen (BUN) levels in wild-type, but not *Sting*^{1-/-}, mice in a model of sepsis induced by cecal ligation and puncture (CLP).

References

1. Su, Y.P., Shen, J., Xu, Y., *et al.* Preparative separation of alkaloids from *Gelsemium elegans* Benth. using pH-zone-refining counter-current chromatography. *J. Chromatogr. A* **1218**(23), 3695-3698 (2011).
2. Chen, Y., Bian, H., Lv, J., *et al.* Gelsevirine is a novel STING-specific inhibitor and mitigates STING-related inflammation in sepsis. *Front. Immunol.* **14**, 1190707 (2023).

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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