

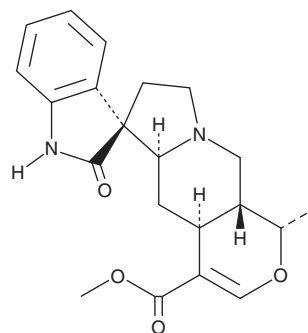
PRODUCT INFORMATION



Mitraphylline

Item No. 25528

CAS Registry No.: 509-80-8
Formal Name: (1'S,3R,4'aS,5'aS,10'aR)-1,2,5',5'a,7',8',10',10'a-octahydro-1'-methyl-2-oxo-spiro[3H-indole-3,6'(4'aH)-[1H]pyrano[3,4-f]indolizine]-4'-carboxylic acid, methyl ester
MF: C₂₁H₂₄N₂O₄
FW: 368.4
Purity: ≥98%
UV/Vis.: λ_{max}: 243 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Mitraphylline is supplied as a crystalline solid. A stock solution may be made by dissolving the mitraphylline in the solvent of choice. Mitraphylline is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of mitraphylline in these solvents is approximately 5 mg/ml. Mitraphylline is also slightly soluble in ethanol.

Mitraphylline is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, mitraphylline should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Mitraphylline has a solubility of approximately 0.33 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Mitraphylline is the major pentacyclic oxindolic alkaloid found in *U. tomentosa* and has anti-inflammatory and antiproliferative properties.¹⁻⁴ It reduces production of nitric oxide (NO), IL-8, IL-6, and TNF-α as well as expression of inducible nitric oxide synthase (iNOS) in LPS-activated human neutrophils.¹ Mitraphylline inhibits the growth of SKN-BE(2) neuroblastoma, GAMG glioblastoma, MHH-ES-1 Ewing's sarcoma, and MT-3 breast cancer cells (IC₅₀s = 12.3, 20, 17.15, and 11.18 μM, respectively).^{2,3} *In vivo*, mitraphylline (30 mg/kg per day) inhibits LPS-induced release of IL-1α, IL-1β, IL-17, and TNF-α in mouse serum.⁴

References

1. Montserrat-de la Paz, S., Fernandez-Arche, A., de la Puerta, R., *et al.* Mitraphylline inhibits lipopolysaccharide-mediated activation of primary human neutrophils. *Phytomedicine* **23**(2), 141-148 (2016).
2. García Prado, E., García Gimenez, M.D., De La Puerta Vázquez, R., *et al.* Antiproliferative effects of mitraphylline, a pentacyclic oxindole alkaloid of *Uncaria tomentosa* on human glioma and neuroblastoma cell lines. *Phytomedicine* **14**(4), 280-284 (2007).
3. García Giménez, D., García Prado, E., Sáenz Rodríguez, T., *et al.* Cytotoxic effect of the pentacyclic oxindole alkaloid mitraphylline isolated from *Uncaria tomentosa* bark on human Ewing's sarcoma and breast cancer cell lines. *Planta Med.* **76**(2), 133-136 (2010).
4. Rojas-Duran, R., González-Aspajo, G., Ruiz-Martel, C., *et al.* Anti-inflammatory activity of mitraphylline isolated from *Uncaria tomentosa* bark. *J. Ethnopharmacol.* **143**(3), 801-804 (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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