LKT Laboratories, Inc.

Protopine

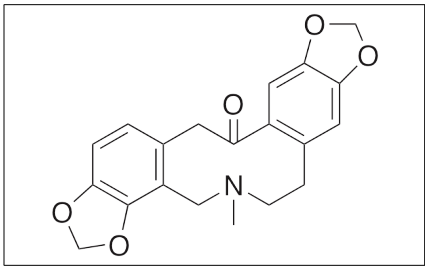
Phone: 888-558-5227
651-644-8424
Fax: 888-558-7329
Email: getinfo@lktlabs.com
Web: lktlabs.com

Product Information

Product ID P7158
CAS No. 130-86-9
Chemical Name

Synonym Corydinine, Fumarine, Biflorine

Formula $C_{20}H_{19}NO_5$
Formula Wt. 353.37
Melting Point
Purity ≥98%
Solubility 10mM in DMSO



Pricing and Availability

Bulk quanitites available upon request

Product ID	Size	List Price
P7158	1 mg	$54.70
P7158	5 mg	$123.70

Store Temp 4°C
Ship Temp Ambient

Description Protopine is an isoquinoline alkaloid originally found in a variety of sources, including species of *Corydalis* and *Papavera*. Protopine exhibits analgesic, anti-inflammatory, anticancer, antioxidative, neuroprotective, and anti-parasitic/anti-helminthic activities. Protopine induces analgesia in animal models of mechanical and thermal pain; this mechanism may involve opioid, α-adrenergic, and Ca2+ signaling pathways. Protopine suppresses Ca2+ influx through inhibition of voltage-gated and receptor-gated Ca2+ channels, preventing aortic contraction. In vitro, protopine decreases levels of NO, COX-2, prostaglandin E2 (PGE2) induced by lipopolysaccharide (LPS). Additionally, protopine inhibits phosphorylation of MAPKs and activation of NF-κB. Protopine may act as a microtubule stabilizer, inhibiting depolymerization. This compound also increases activity of CDK1 and cyclin B1 and decreases levels of MCl-1, inducing apoptosis in prostate cancer cells. In PC-12 neurons, protopine increases activity of superoxide dismutase (SOD), glutathione peroxidase, and catalase, and decreases levels of malondialdehyde and caspase 3; this reduces disruption of mitochondrial membrane potential and apoptosis, increasing cell survival. Protopine also exhibits anti-parasitic activity against species of *Dactylogyrus*.

References

Bae DS, Kim YH, Pan CH, et al. Protopine reduces the inflammatory activity of lipopolysaccharide-stimulated murine macrophages. BMB Rep. 2012 Feb;45(2):108-13. PMID: 22360889.

Chen CH, Liao CH, Chang YL, et al. Protopine, a novel microtubule-stabilizing agent, causes mitotic arrest and apoptotic cell death in human hormone-refractory prostate cancer cell lines. Cancer Lett. 2012 Feb 1;315(1):1-11. PMID: 22033245.

Xiao X, Liu J, Hu J, et al. Protective effects of protopine on hydrogen peroxide-induced oxidative injury of PC12 cells via Ca(2+) antagonism and antioxidant mechanisms. Eur J Pharmacol. 2008 Sep 4;591(1-3):21-7. PMID: 18602385.

Xu Q, Jin RL, Wu YY. Opioid, calcium, and adrenergic receptor involvement in protopine analgesia. Zhongguo Yao Li Xue Bao. 1993 Nov;14(6):495-500. PMID: 8010045.

Ko FN, Wu TS, Lu ST, et al. Ca(2+)-channel blockade in rat thoracic aorta by protopine isolated from Corydalis tubers. Jpn J Pharmacol. 1992 Jan;58(1):1-9. PMID: 1322473.