

Protopine Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Protopine

Catalog No.: CFN99399

Cas No.: 130-86-9

Purity: >=98%

M.F: C₂₀H₁₉NO₅

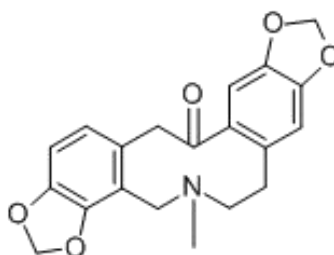
M.W: 353.37

Physical Description: Powder

Synonyms: 7,13a-Secoberbin-13a-one, 7-methyl-2,3:9,10-bis(methylenedioxy)-;

7-Methyl-6,8,9,16-tetrahydrodi[1,3]benzodioxolo[4,5-c:5,6-g]azecin-15(7H)-one;

Biflorine; Bis[1,3]benzodioxolo[4,5-c:5',6'-g]azecin-13(5H)-one, 4,6,7,14-tetrahydro-5-methyl-; Corydine; Hypercorine; Protopin; Biflorin.



[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Synthetic precursor compounds;
4. Intermediates & Fine Chemicals;
5. Others.

[Source]

The tubers of *Corydalis yanhusuo* W.T.Wang.

[Biological Activity or Inhibitors]

Protopine is an isoquinoline alkaloid contained in plants in northeast Asia, it can reduce the inflammatory activity of lipopolysaccharide-stimulated murine macrophages, the inhibitory effects is caused by blocking phosphorylation of mitogen-activated protein kinases (MAP kinases) and also blocking activation of a nuclear factor kappa-light-chain-enhancer of activated B cells (NF- κ B).^[1]

In vivo, pretreatment with protopine (50-100 mg·kg⁻¹) protects rabbits from the lethal effects of AA (2 mg·kg⁻¹) or PAF (11 micrograms·kg⁻¹) in dose-dependent fashion, protopine (50-100 mg·kg⁻¹) also inhibits carrageenan-induced rat paw oedema with a potency of three-fold as compared to aspirin, suggests that protopine acts as a potent inhibitor of thromboxane synthesis and PAF with anti-inflammatory properties.^[2]

Protopine has protective effects on hydrogen peroxide-induced oxidative injury of PC12 cells via Ca²⁺ antagonism and antioxidant mechanisms. ^[3]

Protopine has hepatoprotective potential of Fumaria indica Pugsley whole plant extracts.^[4]

Protopine inhibits serotonin transporter and noradrenaline transporter and has the antidepressant-like effect in mice models.^[5]

Protopine has antispasmodic and relaxant activity on isolated guinea-pig ileum.^[6]

Protopine, a novel microtubule-stabilizing agent, causes mitotic arrest and apoptotic cell death in human hormone-refractory prostate cancer cell lines.^[7]

[Solvent]

Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.

[HPLC Method]^[8]

Mobile phase: Methanol--0.2% Phosphoric acid (adjusted to pH 7.0 with triethylamine) = 50:50 ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 254 nm.

[Storage]

2-8°C, Protected from air and light, refrigerate or freeze.

[References]

- [1] Bae D S, Kim Y H, Pan C H, *et al. Bmb Rep.*, 2012, 45(2):108-13.
- [2] Saeed S A, Gilani A H, Majoo R U, *et al. Pharmacol. Res.*, 1997, 36(1):1-7.
- [3] Xiao X, Liu J, Hu J, *et al. Eur. J. Pharmacol.* 2008, 591(1-3):21-7.
- [4] Rath A, Srivastava A K, Shirwaikar A, *et al. Phytomed. Int. J. Phytother. Phytopharmacol.*, 2008, 15(6-7):470-7.
- [5] Xu L F, Chu W J, Qing X Y, *et al. Neuropharmacology*, 2006, 50(8):934-40.
- [6] Hiller K O, Ghorbani M, Schilcher H. *Planta Med.*, 1998, 64(8):758-60.
- [7] Chen C H, Liao C H, Chang Y L, *et al. Cancer Lett.*, 2012, 315(1):1-11.
- [8] Yan T Q, Fang Y Y, Min A T. *China Journal of Chinese Materia Medica*, 2004, 29(10):961-3.

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