

Catalpol Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Catalpol

Catalog No.: CFN98251

Cas No.: 2415-24-9

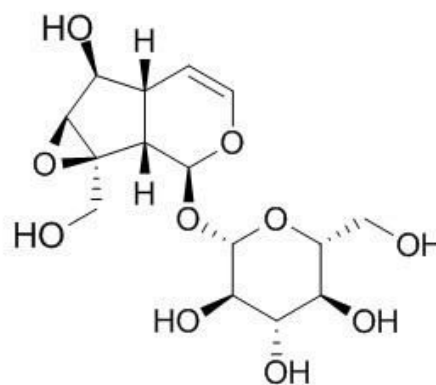
Purity: > 98%

M.F: C₁₅H₂₂O₁₀

M.W: 362.3

Physical Description: Powder

Synonyms: (1aS,1bS,2S,5aR,6S,6aS)-1a,1b,2,5a,6,6a-Hexahydro-6-hydroxy-1a-(hydroxymethyl)oxireno[4,5]cyclopenta[1,2-c]pyran-2-yl-β-D-glucopyranoside ; Catalpinoside.



[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Food research;
4. Cosmetic research;
5. Synthetic precursor compounds;
6. Care and daily chemicals;
7. Intermediates & Fine Chemicals;
8. Ingredient in supplements, beverages;
9. Others.

[Source]

The herb of *Rehmannia glutinosa* (Gaert.) Libosch. ex Fisch. et Mey.

[Biological Activity or Inhibitors]

Catalpol, an iridoid glucoside, has been reported to inhibit apoptosis of neuron and endothelial cells; the pretreatment of H9c2 cells with catalpol can be against H₂O₂-induced apoptosis, and the protective effect of catalpol involves the mitochondrial-dependent caspase pathway and is associated with increased Bcl-2 and decreased Bax expression.^[1]

Catalpol has the neuroprotective effects of in lipopolysaccharide (LPS)-induced inflammatory models, it can prevent mesencephalic neuron death and ameliorate cognitive ability animals; catalpol can exert inhibitory effects on the inflammatory reaction in astrocytes and that inactivation of NF-κB could be the major determinant for its anti-inflammatory mechanism, therefore, it may potentially be a highly effective therapeutic agent in treating neurodegenerative diseases associated with inflammation.^[2]

Catalpol exerts the most significant cytoprotective effect on astrocytes by suppressing the production of free radicals and elevating antioxidant capacity.^[3]

Catalpol can increase presynaptic proteins and up-regulate relative signaling molecules in the hippocampus of the aged rats, it seems to indicate that catalpol might ameliorate age-related neuroplasticity loss by “normalizing” presynaptic proteins and their relative signaling pathways in the aged rats.^[4]

[Solvent]

Pyridine, DMSO, Ethanol, Methanol.

[HPLC Method]^[5]

Mobile phase: Acetonitrile- H₂O =0.7:99.3;

Flow rate: 1.0 ml/min;

Column temperature: 25 °C;

The wave length of determination: 210 nm.

[Storage]

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

[References]

- [1] Hu L A, Sun Y K, Zhang H S, *et al. Biosci. Rep.*, 2016,36(3).
- [2] Bi J, Jiang B, Zorn A, *et al. Toxicol. in Vitro*, 2013, 27(2):543-50.
- [3] Li Y, Bao Y, Bo J, *et al. Int. J. Dev. Neurosci.*, 2008, 26(3-4):309-17.
- [4] Liu J, He Q J, Zou W, *et al. Brain Res.*, 2006, 1123(1):68-79.
- [5] Sun L L, Ren Y H, Chen H L, *et al. China Pharmacy*, 2013(04):374-5.

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