Natural Products

ChemFaces

Shikonin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Shikonin

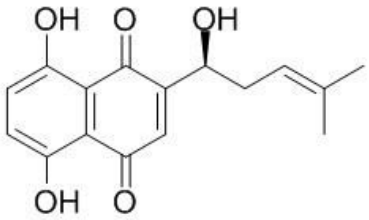
Catalog No.: CFN99907

Cas No.: 517-88-4

Purity: >=98%

M.F: $C_{16}H_{16}O_5$

M.W: 288.31



Physical Description: Purple powder

Synonyms: Anchusin;(S)-5,8-dihydroxy-2-(1-hydroxy-4-methylpent-3-enyl)-1,4-naphthoquinone;5,8-Dihydroxy-2-[(1S)-1-hydroxy-4-methylpent-3-enyl]naphthalene-1,4-dione.

[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. Others.

[Source]

The roots of *Lithosperraum erythrorhizon Sieb. et Zucc.*

[Biological Activity or Inhibitors]

Shikonin is a natural red naphthoquinone pigment synthesized in the roots of plants belonging to the Boraginaceae family; at present, a purified shikonin preparation is widely used in Japan for the production of medicinals, cosmetics, and some food products; in Russia, shikonin enters into the antiinflammatory ointment and cream compositions used for the treatment of burns; shikonin also possesses a broad spectrum of antimicrobial activity.[1]

Shikonin can inhibit the growth and induce the apoptosis of HepG2 cells significantly, which may be related with the PI3/Akt signal pathway.[2]

Shikonin may inhibit the growth of lung adenocarcinoma cell by changing cell cycle and promoting cell apoptosis through the regulation of CCND1, caspase3, and caspase7, suggests that shikonin has the potential to be used as an anti-cancer agent in the treatment of lung adenocarcinoma. [3]

Shikonin can suppress inflammatory reactions, the inhibition of Syk-dependent phosphorylation events might underlie the blocked histamine release from human basophils, thus contributing to the anti-inflammatory effects of shikonin.[4]

[Solvent]

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

[HPLC Method][5]

Mobile phase: Methanol-0.025 M H_3PO_4=85:15 ;

Flow rate: 1.0 ml/min;

Column temperature: 25 ℃;

The wave length of determination: 516 nm.

[Storage]

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

[References]

[1] Karyagina T B, Arzumanyan V G, Timchenko T V, e*t al. Pharm.Chem. J., 2001, 35(8):435-6.*

[2] Hou Y, Cao W, Zhang X N, *et al. Progress in Modern Biomedicine, 2008, 08(9):1631-3.*

[3] Lan W, Wan S, Gu W*, et al. Cell Biochem. Biophys., 2014, 70(2):1459-67.*

[4] Takano-Ohmuro H, Yoshida L S, Yuda Y, *et al. Inflamm. Res., 2008, 57(10):484-8.*

[5] Wu Y. *Traditional Chinese Drug Research & Clinical Pharmacology, 2005, 16(1):66-8.*

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