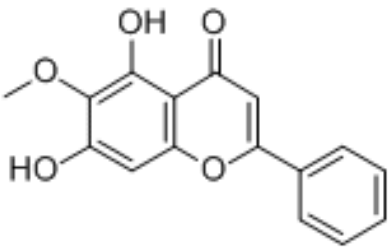
Natural Products

ChemFaces

Oroxylin A Datasheet

4th Edition (Revised in July, 2016)

[Product Information]



Name: Oroxylin A

Catalog No.: CFN98540

Cas No.: 480-11-5

Purity: >=98%

M.F: $C_{16}H_{12}O_5$

M.W: 284.26

Physical Description: Yellow powder

Synonyms: 5,7-Dihydroxy-6-methoxy-2-phenyl-4H-1-benzopyran-4-one; 5,7-Dihydroxy-6-methoxyflavone;6-Methoxybaicalein.

[Intended Use]

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

[Source]

The seeds of *Oraxylum indicum (L.) Kurz.*

[Biological Activity or Inhibitors]

Oroxylin A, an active component in Huang Qin, has anti-inflammation activity, it can inhibit LPS-induced iNOS and COX-2 gene expression by blocking NF-κB activation.[1]

Oroxylin A has selective antitumor effects, it preferentially inhibits the viability of hepatocellular carcinoma (HCC) cell line HepG2 but not the normal hepatic cell line L02. In HepG2 but not L02 cells, it induces substantial production of intracellular H2O2 and inordinate activation of the PERK-eIF2α-ATF4-CHOP branch of the unfolded protein response (UPR) pathway, which results in the induction of TRB3 and causal reduction of p-AKT1/2/3 (Ser473); indicates that the H2O2-triggered overactivation of the UPR pathway and causal inactivation of AKT signaling contributed to the preferential cytotoxicity of oroxylin A in malignant HepG2 cells.[2]

Oroxylin A reverses MDR by G2/M arrest and the underlying mechanism attributed to the suppression of P-gp expression via Chk2/P53/NF-κB signaling pathway. [3]

Oroxylin A suppresses invasion through down-regulating the expression of matrix metalloproteinase-2/9 in MDA-MB-435 human breast cancer cells, it may be developed as a therapeutic potential candidate for the treatment of cancer metastasis.[4]

Baicalin and its metabolites, baicalein and oroxylin A has anti-pruritic effect, oral baicalin may be metabolized by intestinal microflora into baicalein and oroxylin A, which ameliorate pruritic reactions through anti-histamine action.[5]

Oroxylin A has antithrombotic activities in vitro and in vivo.[6]

Oroxylin A facilitates memory consolidation through brain-derived neurotrophic factor (BDNF)-TrkB signaling and confirms that the increase of BDNF in a specific time window plays a crucial role in memory consolidation.[7]

Oroxylin A has antibacterial activity against a panel of susceptible and resistant Gram-positive and Gram-negative organisms.[8]

[Solvent]

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

[HPLC Method][9]

Mobile phase: Acetonitrile- 0.3% Phosphoric acid triethylamine, gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: 30 ℃;

The wave length of determination: 275 nm.

[Storage]

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

[References]

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[4] Sun Y, Lu N, Ling Y, *et al. Eur. J. Pharmacol., 2009, 603(1-3):22-8.*

[5]Trinh H T, Joh E H, Kwak H Y, *et al. Acta Pharmacol. Sin., 2010, 31(6):718-24.*

[6] Ku S K, Lee I C, Bae J S. *Arch. Pharm. Res., 2014, 37(5):679-86.*

[7] Dong H K, Lee Y, Lee H E, *et al. Brain Res. Bull., 2014, 108:67-73.*

[8] Babu K S, Babu T H, Srinivas P V, *et al. Bioorg.Med. Chem. Lett., 2005, 15(17):3953-6.*

[9] Hou X, Zhang Z, You C, *et al.Chinese Journal of Modern Applied Pharmacy, 2012(11): 1010-4.*

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