Natural Products

ChemFaces

Naringenin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Naringenin

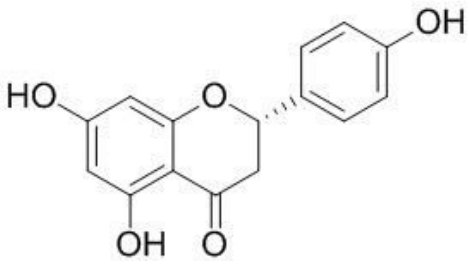
Catalog No.: CFN98742

Cas No.: 480-41-1

Purity: >=98%

M.F: $C_{15}H_{12}O_5$

M.W: 272.25



Physical Description: Powder

Synonyms:

(s)-Naringenin;(2S)-5,7-dihydroxy-2-(4-hydroxyphenyl)-2,3-dihydro-4H-chromen-4-one.

[Intended Use]

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

[Source]

The fruits of *Citrus aurantium L.*

[Biological Activity or Inhibitors]

Naringenin, one of the most abundant flavonoids in citrus fruits, it has inhibitory effects on tumor growth in human cancer cell lines and sarcoma S-180-implanted mice,suggests that it may have a potentially useful inhibitory effect on tumor growth.[1]

Naringenin inhibits very low density lipoprotein (vLDL) secretion both in vivo and in vitro, inhibits the microsomal triglyceride transfer protein activity as well as the transcription of 3-hydroxy-3-methyl-glutaryl-coenzyme A reductase and acyl-coenzyme A:cholesterol acyltransferase 2 in infected cells; stimulation with naringenin reduces HCV secretion in infected cells by 80%; naringenin is effective at concentrations that are an order of magnitude below the toxic threshold in primary human hepatocytes and in mice; suggests naringenin is a novel therapeutic approach for the treatment of hepatitis C virus (HCV) infection.[2]

Naringenin and hesperetin, lower plasma cholesterol in vivo, an enhanced expression of the low density lipoprotein (LDL) receptor, reduced activity and expression of acyl CoA:cholesterol acyltransferase (ACAT) 2 and MTP, these mechanisms may explain the hypocholesterolemic properties of them. [3]

Naringenin and naringin have anti-atherogenic effect, the effect is involved with a decreased hepatic ACAT activity and with the downregulation of VCAM-1 and MCP-1 gene expression.[4]

Administration of naringenin to gastric carcinoma-induced rats largely up-regulated the redox status to decrease the risk of cancer, the up-regulation of antioxidants by naringenin treatment might be responsible for the anticancer effect in gastric carcinoma.[5]

Naringenin exhibits neuroprotection in the 6-OHDA model of Parkinson's disease (PD) , the protection may be related to their antioxidant capabilities and their capability to penetrate into the brain.[6]

Naringenin may be beneficial in ameliorating the cadmium-induced oxidative damage in the liver of rats.[7]

Naringenin prevents dyslipidemia, apolipoprotein B overproduction, and hyperinsulinemia in LDL receptor-null mice with diet-induced insulin resistance, thus, naringenin, through its

correction of many of the metabolic disturbances linked to insulin resistance, represents a promising therapeutic approach for metabolic syndrome.[8]

Naringenin is a weak estrogen that also exhibits partial antiestrogenic activity in the female rat uterus and MCF-7 human breast cancer cells.[9]

Naringenin, a dietary flavonoid, possesses potent antidepressant-like property via the central serotonergic and noradrenergic systems, suggests the therapeutic potential of this dietary flavonoid in central nervous system disorders especially depression where monoaminergic systems are involved.[10]

Naringenin reduces the extent of cisplatin-induced nephrotoxicity by significant reduction in serum urea and creatinine concentrations, decreased polyuria, reduction in body weight loss, marked reduction in urinary fractional sodium excretion and glutathione S-transferase (GST) activity, and increased creatinine clearance.[11]

Naringenin exhibits anti-inflammatory and antitumor activities, it may provide neuroprotection through suppression of pro-inflammatory pathways in activated BV2 microglial cells.[12]

[Solvent]

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

[HPLC Method][13]

Mobile phase: Methanol- 0.2% Phosphoric acid H2O, gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 290 nm.

[Storage]

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

[References]

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[Contact]

Address:
S5-3 Building, No. 111, Dongfeng Rd.,
Wuhan Economic and Technological Development Zone,
Wuhan, Hubei 430056,
China

Email: info@chemfaces.com
Tel: +86-27-84237783
Fax: +86-27-84254680
Web: www.chemfaces.com
Tech Support: service@chemfaces.com