Natural Products

ChemFaces

Naringin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Naringin

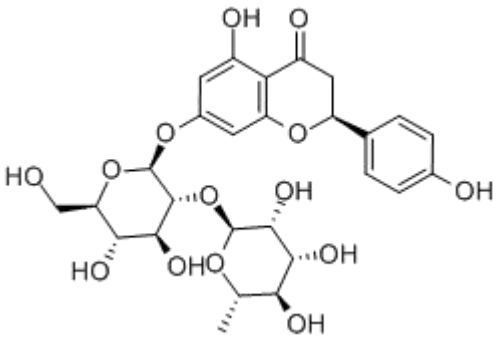
Catalog No.: CFN99555

Cas No.: 10236-47-2

Purity: >=98%

M.F: $C_{27}H_{32}O_{14}$

M.W: 580.53



Physical Description: Powder

Synonyms: (s)-yranosyl]oxy]-; Naringoside;Isohesperidin ; 4H-1-Benzopyran-4-one,7-[[2-O-(6-deoxy-.alpha.-L-mannopyranosyl)-.beta.-D-glucopyranosyl]oxy]-2,3-dihydro-5-hydroxy-2-(4-hydroxyphenyl)-,(S)-.

[Intended Use]

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

[Source]

The peel of *Citrus maxima*.

[Biological Activity or Inhibitors]

Naringin, a flavonoid in grapefruit and citrus, exhibits antioxidant effects, it reduces Ara-C-induced oxidative stress through both an inhibition of the generation of ROS production and an increase in antioxidant enzyme activities; it blocks apoptosis caused by Ara-C-induced oxidative stress, resulting in the inhibition of the cytotoxicity of Ara-C.[1]

Naringin is a major and selective clinical inhibitor of organic anion-transporting polypeptide 1A2 (OATP1A2) in grapefruit juice, it is a single dietary constituent clinically modulating drug transport.[2]

Naringin has anti-atherogenic effects, the effect is involved with a decreased hepatic cholesterol acyltransferase (ACAT) activity and with the downregulation of vascular cell adhesion molecule-1 (VCAM-1) and monocyte chemotactic protein-1 (MCP-1) gene expression. [3]

Naringin and hesperidin both play important roles in preventing the progression of hyperglycemia, partly by increasing hepatic glycolysis and glycogen concentration and/or by lowering hepatic gluconeogenesis.[4]

Naringin has protective effects against post-stroke depression induced neurobehavioral, biochemical and cellular alterations in mice, the nitric oxide mechanism involves in it.[5]

Naringin possesses anti-lipoperoxidative and antioxidant activity in experimentally induced cardiac toxicity, has cardioprotective potential.[6]

Naringin inhibits growth potential of human triple-negative breast cancer cells by targeting β-catenin signaling pathway, it may be used as a potential supplement for the prevention and treatment of breast cancer.[7]

Naringin attenuates epidermal growth factor (EGF)-induced MUC5AC secretion in A549 cells by suppressing the cooperative activities of MAPKs-AP-1 and IKKs-IκB-NF-κB signaling pathways.[8]

Naringin and lovastatin contribute to hypocholesterolemic action via down-regulated ACAT activity and higher excretion of fecal sterols in response to high-cholesterol feeding, naringin supplement seems to preserve tissue morphology from damages induced by high

cholesterol diet.[9]

Naringin has antiulcer effects on gastric lesions induced by ethanol in rats.[10]

Naringin has protective effect against colchicine-induced cognitive dysfunction and oxidative damage in rats, it also has neuroprotective effect by modulation of endogenous biomarkers in streptozotocin induced painful diabetic neuropathy.[11,12]

[Solvent]

Pyridine, Methanol, Ethanol, etc.

[HPLC Method][13]

Mobile phase: Methanol -H2O-Glacial acetic acid=30:68:2 ;

Flow rate: 1.1 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 286 nm.

[Storage]

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

[References]

[1] Kanno S I, Ai S, Hirata R, *et al. J. Pharmacol. Sci., 2004, 75(92):166-70.*

[2] Bailey D G, Dresser G K, Leake B F, *et al. Clin. Pharmacol. Ther., 2007, 81(4): 495-502.*

[3] Lee C H, Jeong T S, Choi Y K, *et al. Biochem. Bioph. Res. Co., 2001, 284(3):681-8.*

[4] Jung U J, Lee M K, Jeong K S, *et al. J. Nutr., 2004, 134(10):2499-503.*

[5] PAggarwal A, Gaur V A. *Life Sci., 2010, 86(25-26):928-35.*

[6] Rajadurai M, Prince P S M. *Toxicology, 2006, 228(2-3):259-68.*

[7] Li H, Yang B, Huang J, *et al. Toxicol. Lett., 2013, 220(3):219-28.*

[8] Nie Y C, Wu H, Li P B, *et al. Eur. J.Pharmacol., 2012, 690(1–3):207-13.*

[9] Jeon S M, Yong B P, Choi M S. *Clin. Nutr., 2004, 23(5):1025-34.*

[10] Martin M J, Marhuenda E, Pérezguerrero C, *et al. Pharmacology, 1994, 49(3):144-50.*

[11] Kumar A, Dogra S, Prakash A. *J. Med. Food, 2010, 13(4):976-84.*

[12] Kandhare A D, Raygude K S, Ghosh P, *et al. Fitoterapia, 2012, 83(4):650-9.*

[13] Wang P. *Medicinal Plant, 2011(11):37-38, 53.*

[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