Natural Products

ChemFaces

Poncirin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Poncirin

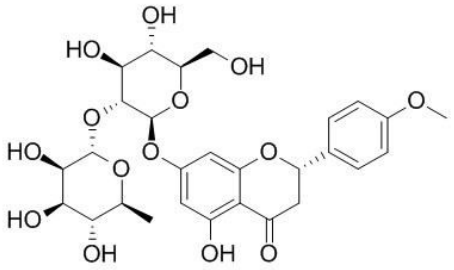
Catalog No.: CFN90448

Cas No.: 14941-08-3

Purity: >=98%

M.F: $C_{28}H_{34}O_{14}$

M.W: 594.56



Physical Description: Powder

Synonyms: Isosakuranetin-7-O-neonesperidoside;(s)-5,7-dihydroxy-4'-methoxyflavanone -7-[2-o-(α -l-rhamnopyranosyl)- β -d-glucopyranoside].

[Intended Use]

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

[Source]

The fruits of *Poncirus trifoliata (L.) Raf.*

[Biological Activity or Inhibitors]

Poncirin was isolated from water extract of the fruits of Poncirus trifoliata and metabolized by human intestinal bacteria, its metabolite, ponciretin has inhibitory effect on the growth of Helicobacter pylori (HP) with a minimum inhibitory concentration (MIC) of 10-20 ug/ml.[1]

Poncirin is an anti-inflammatory compound that inhibits PGE(2) and IL-6 production, the anti-inflammatory properties of poncirin might be the result from the inhibition iNOS, COX-2, TNF-alpha and IL-6 expression via the down-regulation of NF-kappaB binding activity.[2]

Poncirin, isolated from Ponciri Fructus(PF), it (100 mg/kg) can significantly inhibit 60.0% of HCl/ethanol-induced gastric lesions, suggests that it may be useful for the treatment and/or protection of gastritis. [3]

Poncirin can enhance the expression of the key osteogenic transcription factors, runt-related transcription factor 2 (Runx2) and transcriptional coactivator with PDZ-binding motif (TAZ); it also enhances expression of the osteogenic marker genes including alkaline phosphatase (ALP) and osteocalcin (OC), increases mineral nodule formation in primary bone marrow mesenchymal stem cells; suggests that poncirin can prevent adipogenesis and enhance osteoblast differentiation in mesenchymal stem cells.[4]

Poncirin has a potential anti-cancer effect via extrinsic pathway-mediated apoptosis, possibly making it a strong therapeutic agent for human gastric cancer.[5]

Poncirin has antioxidant effect, shows vitamin E-like DPPH radical scavenging activity; it also shows the protection on methylmercuric chloride (MMC)-induced cytotoxicity by antioxidant effect.[6]

[Solvent]

Pyridine, Methanol, Ethanol, etc.

[HPLC Method][7]

Mobile phase: Methanol- 1.0% Acetic acid H2O,gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: 25 ℃;

The wave length of determination: 240 nm.

[Storage]

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

[References]

[1] Kim D H, Bae E A, Han M J. *Biol. Pharmaceut.Bull., 1999, 22(4):422-4.*

[2] Kim J B, Han A R, Park E Y. *Biol. Pharmaceut. Bull., 2007, 30(12):2345-51.*

[3] Lee J H, Lee S H, Kim Y S, *et al. Phytother. Res., 2009, 23(12):1748–53.*

[4] Yoon H Y, Yun S I, Kim B Y, *et al. Eur. J.Pharmacol. 2011, 664(1-3):54-9.*

[5] Saralamma V V, Nagappan A, Hong G E, *et al. Int. J. Mol. Sci., 2015, 16(9):22676-91.*

[6] Jung I J, Back J C, Choi Y S. *대한의생명과학회지, 2007, 13(4):355-60.*

[7]Silva L C, David J M, Borges R S, *et al. J. Anal. Methods Chem., 2013, 2014(3): 296838-296838.*

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