Natural Products

ChemFaces

Formononetin Datasheet

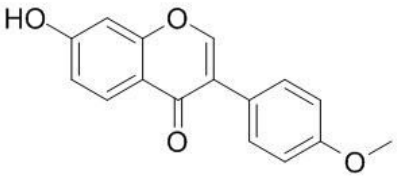
4th Edition (Revised in July, 2016)

[Product Information]

Name: Formononetin

Catalog No.: CFN99962

Cas No.: 485-72-3



Purity: > 98%

M.F: $C_{16}H_{12}O_4$

M.W: 268.27

Physical Description: Needle cryst.

Synonyms: 7-Hydroxy-3-(4-methoxyphenyl)-1-benzopyran-4-one;

Biochanin B; Formononetol; 7-Hydroxy-4'-methoxyisoflavone; 4'-O-methyldaidzein.

[Intended Use]

1. Reference standards;

2. Pharmacological research;

3. Synthetic precursor compounds;

4. Intermediates & Fine Chemicals;

5. Others.

[Source]

The bark of *Ononis natrix L.*

[Biological Activity or Inhibitors]

Formononetin causes vascular relaxation via endothelium/NO-dependent mechanism and endothelium-independent mechanism which involves the activation of BK(Ca) and K(ATP) channels.[1]

Formononetin-treated Ovx rats has an increased bone osteoprotegerin-to-receptor activator for nuclear κB ligand ratio compared with the Ovx^+ vehicle group; daily oral administration of formononetin for 12 weeks has a substantial anabolic effect, thus raising the possibility of its use in postmenopausal osteoporosis.[2]

Formononetin exhibits antiviral activities against some members of Picornaviridae, could inhibit EV71-induced COX-2 expression and PGE2 production via MAPKs pathway including ERK, p38 and JNK, thus, formononetin could be a potential lead or supplement for the development of new anti-EV71 agents in the future.[3]

Formononetin reduces hydrogen peroxide (H2O2)-induced apoptosis and improves the levels or activity of indicators of oxidative stress, also inhibits the activation of nuclear factor-kappaB (NF-κB), which is a significant transcription factor for RGC-5 apoptosis.[4]

[Solvent]

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

[HPLC Method][5]

Mobile phase: Acetonitrile : 0.1% Phosphoric acid H2O=40:60;

Flow rate: 1.0 ml/min;

Column temperature: 25 ℃;

The wave length of determination: 254 nm.

[Storage]

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

[References]

[1] Wu J H, Li Q, Wu M Y, *et al. J. Nutr. Biochem., 2010, 21(7):613-20.*

[2]Tyagi A M, Srivastava K, Singh A K, *et al. Menopause, 2012, 19(8):856-63.*

[3] Wang H, Zhang D, Miao G, *et al. Viro J., 2015, 12(1):1-10.*

[4] Jia W C, Liu G, Zhang C D, *et al. Eu.r Rev. Med. & Pharmacol., 2014, 18(15):2191-7.*

[5] Xing J H, Sun X L, Zhou J.*Chinese Journal of Pharmaceutical Analysis, 2009(01):73-5*.

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