Natural Products

ChemFaces

Silymarin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Silymarin

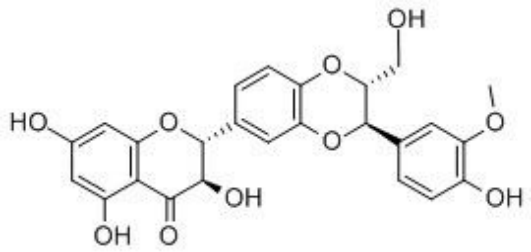
Catalog No.: CFN99542

Cas No.: 22888-70-6

Purity: > 98%

M.F: $C_{25}H_{22}O_{10}$

M.W: 482.46



Physical Description: White powder

Synonyms:(2R,3R)-3,5,7-trihydroxy-2-[(2R,3R)-3-(4-hydroxy-3-methoxyphenyl)-2-(hydroxymethyl)-2,3-dihydro-1,4-benzodioxin-6-yl]-3,4-dihydro-2H-1-benzopyran-4-one.

[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Food and cosmetic research;
4. Synthetic precursor compounds;
5. Intermediates & Fine Chemicals;
6. Ingredient in supplements, beverages;
7. Care and daily chemicals;
8. Others.

[Source]

The herb of *Silybum marianum (L.) Gaertn.*

[Biological Activity or Inhibitors]

Silymarin (SIL), a standardized plant extract containing about 60% polyphenole silibinin, is used as a hepatoprotective agent, it retards collagen accumulation in early and advanced biliary fibrosis secondary to complete bile duct obliteration in rats, it also may play a role in the therapy of (alcoholic) liver cirrhosis.[1,2]

Silymarin modulates imbalance between cell survival and apoptosis through interference with the expressions of cell cycle regulators and proteins involved in apoptosis; it also shows anti-inflammatory as well as anti-metastatic activity; it has the protective effects in various tissues, suggest a clinical application in cancer patients as an adjunct to established therapies, to prevent or reduce chemotherapy as well as radiotherapy-induced toxicity.[3]

Silymarin possesses antioxidant, anti-inflammatory and immunomodulatory properties which may lead to the prevention of skin cancer in in vivo animal models, suggests that it is a promising chemopreventive and pharmacologically safe agent which can be exploited or tested against skin cancer in human system, moreover, it may favorably supplement sunscreen protection and provide additional anti-photocarcinogenic protection.[4]

Silymarin induces apoptosis primarily through a p53-dependent pathway involving Bcl-2/Bax, cytochrome c release, and caspase activation.[5]

Silymarin and silibinin cause G1 and G2–M cell cycle arrest via distinct circuitries in human prostate cancer PC3 cells.[6]

[Solvent]

Chloroform, Dichloromethane, DMSO, Acetone.

[HPLC Method][7]

Mobile phase: Methanol- Acetonitrile-0.05 M KH_2PO_4(adjusted at pH 2.3),gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: 30 ℃;

The wave length of determination: 288 nm.

[Storage]

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

[References]

[1] Boigk G, Stroedter L, Herbst H, *et al. Hepatology, 1997, 26(3):643-9.*

[2] Saller R, Meier R, Brignoli R. *Drugs, 2001, 61(14):2035-63.*

[3] Ramasamy K, Agarwal R. *Cancer Lett., 2008, 269(269):352-62.*

[4] Katiyar S K. *Int. J. Oncol., 2005, 26(1):169-76.*

[5] Katiyar S K, Roy A M, Baliga M S. *Mol .Cancer Ther., 2005, 4(2):207-16.*

[6] Deep G, Singh R P, Agarwal C*, et al. Oncogene, 2006, 25(7):1053-69.*

[7] Korany M A, Haggag R S, Ragab M A A, *et al. Arab .J. Chem., 2013, 06.021.*

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