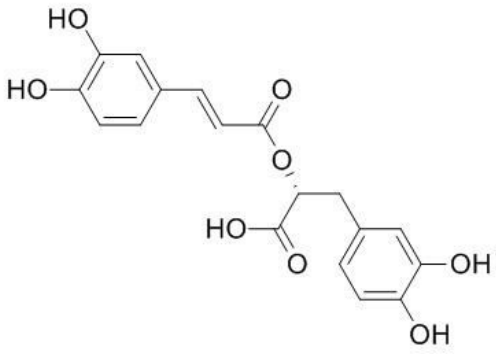
Natural Products

ChemFaces

Rosmarinic acid Datasheet

4th Edition (Revised in July, 2016)

[Product Information]



Name: Rosmarinic acid

Catalog No.: CFN99103

Cas No.: 20283-92-5

Purity: > 98%

M.F: $C_{18}H_{16}O_8$

M.W: 360.31

Physical Description: Powder

Synonyms:(2R)-3-(3,4-dihydroxyphenyl)-2-[(E)-3-(3,4-dihydroxyphenyl)-1-oxoprop-2-en oxy]propanoic acid.

[Intended Use]

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

[Source]

The herb of *Rosmarinus officinalis L.*

[Biological Activity or Inhibitors]

Rosmarinic acid is a naturally occurring hydroxylated compound, it is present in many plants, such as Artemisia capillaris , Calendulla officinalis; it shows antiviral, antibacterial, antiinflammatory and antioxidant activity, can produce anxiolytic-like effect without exerting locomotor alterations or DNA damage in brain tissue.[1]

Rosmarinic acid can inhibit complement activation in vivo as well as in vitro, the inhibition of complement activation by rosmarinic acid is due to the reaction of rosmarinic acid with the activated thioester of metastable C3b, resulting in covalent attachment of the inhibitor to the protein.[2]

Rosmarinic acid induces melanogenesis through protein kinase A activation signaling, which occurs downstream of cAMP production.[3]

Rosmarinic acid has antioxidative and anti-inflammatory activities, can inhibit diesel exhaust particles (DEP)-induced lung injury by the reduction of proinflammatory molecule expression, and the antioxidative activities may also contribute to its protective effects.[4]

Rosmarinic acid inhibits the expression of CCL11 and CCR3 by suppressing the IKK- β activity in NF- κ B activation signaling, suggests that rosmarinic acid might inhibit the expression of NF- κ B promoter-related genes. [5]

Rosmarinic acid has potent anticancer, anti-lipid peroxidative and apoptotic effect in 7,12-dimethylbenz(a)anthracene (DMBA) -induced skin carcinogenesis.[6]

Rosmarinic acid mediates neuroprotective effects against H2O2-induced neuronal cell damage in N2A cells, suggests that it may potentially serve as an agent for prevention of several human neurodegenerative diseases caused by oxidative stress.[7]

[Solvent]

Pyridine, DMSO, Methanol, etc.

[HPLC Method][8]

Mobile phase: Acetonitrile- 1% Acetic acid H2O =30:70 ;

Flow rate: 0.8 ml/min;

Column temperature: 30 ℃;

The wave length of determination: 280 nm.

[Storage]

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

[References]

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[4] Sanbongi C, Takano H, Osakabe N, *et al.Free Radical Biol. Med., 2003, 34(8):1060-9*.

[5] Jongsung Lee, Eunsun Jung, Youngji Kim,*et al. Brit. J. Pharmacol., 2006, 148(3): 366-75.*

[6]Sharmila R, Manoharan S. *Indian J. Exp. Biol., 2012, 50(3):187-94.*

[7] Ghaffari H, Venkataramana M, Ghassam B J, *et al. Life Sci., 2014, 113(1-2):7-13.*

[8] Wang Z, Xu Y, Jiao R, *et al. China Pharmacist, 2014(09):1473-5.*

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