

Carnosol Datasheet

5th Edition (Revised in January, 2017)

[Product Information]

Name: Carnosol

Catalog No.: CFN99956

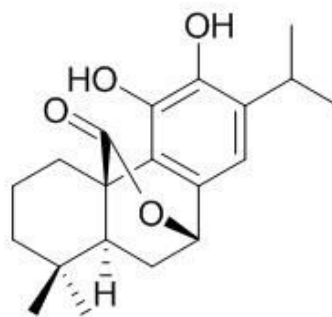
Cas No.: 5957-80-2

Purity: >=98%

M.F: C₂₀H₂₆O₄

M.W: 330.42

Physical Description: Powder



Synonyms: 2H-9,4a-(Epoxy-methano)phenanthren-12-one, 1,3,4,9,10,10a-hexahydro-5,6-dihydroxy-1,1-dimethyl-7-(1-methylethyl)-, (4aR-(4a α ,9 α ,10 β))-; (5 β)-11,12-dihydroxy-7,20-epoxyabieta-8(14),9(11),12-trien-20-one; (5 β ,7 α)-11,12-dihydroxy-7,20-epoxyabieta-8,11,13-trien-20-one.

[Intended Use]

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

[Source]

The herbs of *Rosmarinus officinalis* L.

[Biological Activity or Inhibitors]

Carnosol functions as antioxidant and anticarcinogen, it suppresses the NO production and iNOS gene expression by inhibiting NF-kappaB activation, and provide possible mechanisms for its anti-inflammatory and chemopreventive action.^[1]

Carnosol can cause a significant decrease in both bacterial and yeast growth whilst, it may prove useful as a food antioxidant which could also contribute to the retardation of the microbial spoilage of foods.^[2]

Carnosol can restrict the invasive ability of B16/F10 mouse melanoma cells by reducing MMP-9 expression and activity through suppressing (ERK) 1/2, AKT, p38, and JNK signaling pathway and inhibition of NF-kappaB and AP-1 binding activity, indicate that carnosol targets MMP-mediated cellular events in cancer cells and provides a new Carnosol can prevent acute liver damage, possibly by improving the structural integrity of the hepatocytes, it can scavenge free radicals induced by CCl₄, consequently avoiding the propagation of lipid peroxides.^[4]

Carnosol and carnosic acid inhibit adipocyte differentiation in mouse 3T3-L1 cells through induction of phase2 enzymes and activation of glutathione metabolism, they may be potential drugs against obesity-related diseases.^[5]

Carnosol and carnosic acid have anti-angiogenic activity, which could contribute to the chemopreventive, antitumoral and antimetastatic activities of them and suggests their potential in the treatment of other angiogenesis-related malignancies.^[6]

[Solvent]

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

[HPLC Method]^[7]

Mobile phase: 0.01M Acetonitrile-H₂O=52:48 ;

Flow rate: 0.8 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 285 nm.

[Storage]

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

[References]

- [1] Lo A H, Liang Y C, Lin-Shiau S Y, *et al. Carcinogenesis*, 2002, 23(6):983-91.
- [2] Collins M A, Charles H P. *Food Microbiol.*, 1987, 4(4):311-5.
- [3] Huang S C, Ho C T, Lin-Shiau S Y, *et al. Biochem. Pharmacol.*, 2005, 69(2):221-32.
- [4] Sotelo-Félix J I, Martinez-Fong D, Muriel D I T P. *Eur. J. Gastroenterol. Hepatol.*, 2002 , 14(9):1001-6.
- [5] Takahashi T, Tabuchi T, Tamaki Y, *et al. Biochem. Biophys. Res. Commun.*, 2009, 382 (3):549-54.
- [6] Lópezjiménez A, Garcíacaballero M, Medina M Á, *et al. Eur. J. Nutr.*, 2013, 52(1): 85-95.
- [7] Lu D Z, Wang M Y, Yuan H Q, *et al. Journal of Instrumental Analysis*, 2006, 25(3): 109-11.

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