

Daphnetin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Daphnetin

Catalog No.: CFN99952

Cas No.: 486-35-1

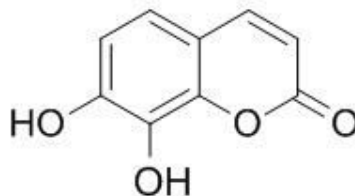
Purity: >=98%

M.F: C₉H₆O₄

M.W: 178.14

Physical Description: White cryst.

Synonyms: 7,8-Dihydroxycoumarin; 7,8-Dihydroxy-2h-1-benzopyran-2-on.



[Intended Use]

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

[Source]

The herbs of *Daphne Korean Nakai*.

[Biological Activity or Inhibitors]

Daphnetin, one of coumarin derivatives, is a protein kinase inhibitor.^[1]

Daphnetin has been shown to be a potent in vitro anti-proliferative agent to the human renal cell carcinoma (RCC) cell line, A-498; p38 MAP kinase is intrinsically involved in mediating the effect of daphnetin in A-498 cells, suggesting that this drug may act by promotion of cellular maturation, and consequently may represent a novel low toxic approach for the treatment of poorly differentiated RCCs.^[2]

Daphnetin is highly effective on preventing and suppressing the development and progression of adjuvant-induced arthritis and provides direct evidences that daphnetin is one of the active principle of Zushima-Pian for treating rheumatoid arthritis. ^[3]

Daphnetin can enhance immunological functions of B lymphocytes, the expression of IL-12 in B lymphocytes can be up-regulated by daphnetin through natural immunity approach.^[4]

Daphnetin is a dihydroxycoumarin that is being used in China for the treatment of coagulation disorders, it is also a chelator and an antioxidant; it is a novel antimalarial agent with in vitro and in vivo activity.^[5]

Daphnetin shows great antiproliferative activity in several tumor cell lines and have been proposed as a potential anticancer agent.^[6]

Daphnetin has anti-inflammatory properties, it has been used to treat inflammatory diseases including bronchitis; it has protective functions of daphnetin in endotoxin-induced lung inflammation and injury.^[7]

[Solvent]

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

[HPLC Method]^[8]

Mobile phase: Methanol-0.5% Acetic acid H₂O=22:78 ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 327 nm.

[Storage]

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

[References]

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- [5] Yang Y Z, Ranz A, Pan H Z, *et al. Am. J. Trop. Med. Hyg.*, 1992, 46(1):15-20.
- [6] Jiménez-Orozco F A, Rosales A A, Vega-López A, *et al. Eur. J. Pharmacol.*, 2011, 668 (1-2):35-41.
- [7] Yu W W, Lu Z, Zhang H, *et al. J. Agr. Food Chem.*, 2014, 62(51):12315-25.
- [8] Shan J J, Di L Q Wang S C. *Chinese Journal of Pharmaceutical Analysis*, 2012, 32(5): 755-4.

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