

## (+)-Taxifolin Datasheet

5<sup>th</sup> Edition (Revised in January, 2017)

### [ Product Information ]

**Name:** (+)-Taxifolin

**Catalog No.:** CFN99183

**Cas No.:** 17654-26-1

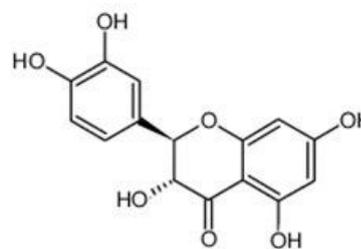
**Purity:** > 98%

**M.F:** C<sub>15</sub>H<sub>12</sub>O<sub>7</sub>

**M.W:** 304.25

**Physical Description:** Powder

**Synonyms:** Dihydroquercetin; (2R,3R)-2-(3,4-dihydroxyphenyl)-3,5,7-trihydroxy-3,4-dihydro-2H-1-benzopyran-4-one.



### [ Intended Use ]

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

### [ Source ]

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

## **[ Biological Activity or Inhibitors ]**

Taxifolin has anti-inflammatory effects, taxifolin glycoside seems to inhibit the dendritic cell responses stimulated by microbial products and IL-1 $\beta$ , suggesting that taxifolin glycoside may exert an inhibitory effect against dendritic-cell-mediated immune responses.<sup>[1]</sup>

Taxifolin can improve diastolic dysfunction, ameliorate myocardium structure abnormality, inhibit myocyte apoptosis and enhance endogenous antioxidant enzymes activities, it exerts cardioprotective effects against diabetic cardiomyopathy by inhibiting oxidative stress and cardiac myocyte apoptosis and may be a potential agent in the treatment of diabetic cardiomyopathy.<sup>[2]</sup>

Taxifolin has marked antioxidant, reducing ability, radical scavenging and metal-chelating activities. <sup>[3]</sup>

(+)-taxifolin is an inhibitor of aggregation of the 42-residue amyloid  $\beta$ -protein, it has preventive effects against Alzheimer's disease-like pathogenesis in vivo.<sup>[4]</sup>

Taxifolin exerts chemopreventive activity against UV-induced skin carcinogenesis by targeting EGF receptor (EGFR) and phosphoinositide 3-kinase (PI3K).<sup>[5]</sup>

Liposome preparation containing taxifolin oligomers and taxifolin conjugates with carbonyl compounds have effect on skin regeneration after chemical burn, taxifolin conjugates with carbonyl compounds can be used for the creation of combined wound- and burn-healing preparations.<sup>[6]</sup>

Taxifolin can ameliorate cerebral ischemia-reperfusion(CI/R) injury in rats through its anti-oxidative effect and modulation of NF-kappa B activation, which in turn modulates NF-kappaB activation that mediates CI/R injury.<sup>[7]</sup>

Taxifolin and its tetramethylated derivative exhibit potent and dose-dependent antinociceptive action against acetic acid-induced abdominal constriction when administered intraperitoneally or orally and shows significant anti-oedematogenic effect, inhibiting the paw oedema formation induced by dextran.<sup>[8]</sup>

## **[ Solvent ]**

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

## **[ HPLC Method ]<sup>[9]</sup>**

Mobile phase: Acetonitrile-Phosphoric acid -H<sub>2</sub>O=15:0.5:85 ;

Flow rate: 0.35ml/min;

Column temperature: 25 °C;

The wave length of determination: 288 nm.

## **[ Storage ]**

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

## **[ References ]**

- [1] Kim Y J, Choi S E, Lee M W, *et al. J. Pharm. Pharmacol.*, 2008, 60(11):1465-72.
- [2] Sun X, Chen R C, Yang Z H, *et al. Food Chem. Toxicol.*, 2014, 63(1):221-32.
- [3] Topal F, Nar M, Gocer H, *et al. J. Enzym. Inhib. Med.Ch.*, 2016, 38(4):1-10.
- [4] Sato M, Murakami K, Uno M, *et al. Biosci. Biotechnol. Biochem.*, 2013, 77(5):1100-3.
- [5] Oi N, Chen H, Ok K M, *et al. Cancer Prev. Res. (Phila)*, 2012, 5(9):1103-14.
- [6] Shubina V S, Shatalin Y V. *Bull. Exp. Biol. Med.*, 2012, 154(1):152-7.
- [7] Wang Y H, Wang W Y, Chang C C, *et al. J. Biomed. Sci.*, 2006, 13(1):127-41.
- [8] Cechinel-Filho V, Vaz Z R, Zunino L, *et al. Arzneimittel-Forschung*, 2000, 50(3):281-5.
- [9] Vega - Villa K R, Remsberg C M, Ohgami Y, *et al. Biomed.Chromatogr.*, 2009, 23(6): 638-46.

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