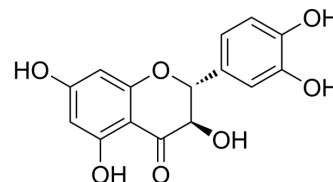


Taxifolin

Cat. No.:	HY-N0136		
CAS No.:	480-18-2		
Molecular Formula:	C ₁₅ H ₁₂ O ₇		
Molecular Weight:	304.25		
Target:	Autophagy; Tyrosinase; TNF Receptor		
Pathway:	Autophagy; Metabolic Enzyme/Protease; Apoptosis		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (328.68 mM)
 * "≥" means soluble, but saturation unknown.

Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	3.2868 mL	16.4339 mL	32.8677 mL
5 mM	0.6574 mL	3.2868 mL	6.5735 mL
10 mM	0.3287 mL	1.6434 mL	3.2868 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.75 mg/mL (9.04 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 2.75 mg/mL (9.04 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.75 mg/mL (9.04 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Taxifolin ((+)-Dihydroquercetin) exhibits important anti-tyrosinase activity. Taxifolin exhibits significant inhibitory activity against collagenase with an IC₅₀ value of 193.3 μM^[1]. Taxifolin is an important natural compound with antifibrotic activity. Taxifolin is a free radical scavenger with antioxidant capacity^[2].

IC₅₀ & Target

IC₅₀: 193.3 μM (Collagenase)^[1]
 Tyrosinase^[1]

In Vitro

This is confirmed by the investigation of pure Taxifolin and (+)-Catechin against collagenase activity. Taxifolin exhibits significant inhibitory activity with an IC_{50} value of 193.3 μ M while (+)-Catechin is not active^[1]. Taxifolin is a ubiquitous bioactive constituent of foods and herbs. Taxifolin (dihydroquercetin) is a bioactive flavanonol commonly found in grapes, citrus fruits, onions, green tea, olive oil, wine, and many other foods, as well as several herbs (such as milk thistle, French maritime bark, Douglas fir bark, and Smilacis Glabrae Rhizoma)^[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Taxifolin may be easily metabolized and that its metabolites are the prevalent form in vivo, although limited information is available on metabolism of Taxifolin in vivo^[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Animal Administration^[3]

Rats^[3]

Twelve male Sprague-Dawley rats (weighing 180-220 g) are used. The rats are randomly divided into two groups (six rats per group), a drug group and a blank group. Taxifolin is suspended in 0.5% CMC-Na solution and orally administered to the drug group at a dose of 200 mg/kg body weight, while blank group rats are orally administered 0.5% CMC-Na solution at the same volume. All rats are dosed once a day (at 9:00 a.m.) for 3 days.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Acta Pharm Sin B. 2021 Jan;11(1):143-155.
- Int Immunopharmacol. 2023 Apr 23;119:110197.
- Int Immunopharmacol. 2023, 114: 109616.
- J Ethnopharmacol. 1 March 2022, 114913.
- Chem Biol Interact. 2020 Oct 1;330:109230.

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REFERENCES

[1]. Angelis A, et al. Bio-Guided Isolation of Methanol-Soluble Metabolites of Common Spruce (*Picea abies*) Bark by-Products and Investigation of Their Dermo-Cosmetic Properties. *Molecules*. 2016 Nov 21;21(11):1586.

[2]. Yang P, et al. Detection of 191 Taxifolin Metabolites and Their Distribution in Rats Using HPLC-ESI-IT-TOF-MS(n). *Molecules*. 2016 Sep 13;21(9). pii: E1209.

[3]. Lei Ren, et al. Dissecting Efficacy and Metabolic Characteristic Mechanism of Taxifolin on Renal Fibrosis by Multivariate Approach and Ultra-Performance Liquid Chromatography Coupled With Mass Spectrometry-Based Metabolomics Strategy. *Front Pharmacol*. 2021 Jan 14;11:608511.

Caution: Product has not been fully validated for medical applications. For research use only.

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