Rutin

Cat. No.: HY-N0148

CAS No.: 153-18-4

Molecular Formula: $C_{27}H_{30}O_{16}$

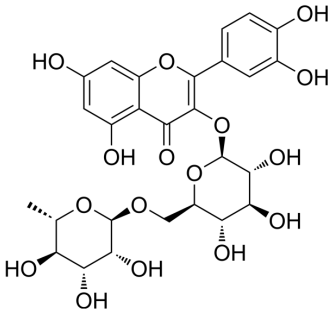
Molecular Weight: 610.52

Target: Autophagy; Amyloid-β; Endogenous Metabolite; Apoptosis

Pathway: Autophagy; Neuronal Signaling; 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 : 50 mg/mL (81.90 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.6379 mL	8.1897 mL	16.3795 mL
	5 mM	0.3276 mL	1.6379 mL	3.2759 mL
	10 mM	0.1638 mL	0.8190 mL	1.6379 mL

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

In Vivo

1. Add each solvent one by one: 50% PEG300 >> 50% saline
   Solubility: 40 mg/mL (65.52 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (4.09 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (4.09 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Rutin (Rutoside) is a flavonoid found in many plants and shows a wide range of biological activities including anti-inflammatory, antidiabetic, antioxidant, neuroprotective, nephroprotective, hepatoprotective and reducing Aβ oligomer activities. Rutin is also a CBR1 inhibitor, which can cross the blood brain barrier. Rutin attenuates vancomycin-induced renal tubular cell apoptosis via suppression of apoptosis, mitochondrial dysfunction, and oxidative stress[1][2][3][4][5].

IC_{50} & Target

CBR1[5]

In Vivo	Rutin hydrate ameliorates cadmium chloride-induced spatial memory loss and neural apoptosis in rats by enhancing levels of acetylcholine, inhibiting JNK and ERK1/2 activation and activating mTOR signaling[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Adv Sci (Weinh). 2022 Oct 18;e2203088.
- Food Chem. 2022: 134807.
- Food Chem. 16 December 2021, 131872.
- Phytomedicine. 2023 Feb 4;112:154700.
- Antioxidants (Basel). 2023 Nov 7, 12(11), 1974.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Carlquist M, et al. Flavonoids as inhibitors of human carbonyl reductase 1. Chem Biol Interact. 2008 Jul 30;174(2):98-108.

[2]. Ghorbani A. Mechanisms of antidiabetic effects of flavonoid rutin. Biomed Pharmacother. 2017;96:305-312.

[3]. Habtemariam S. Rutin as a Natural Therapy for Alzheimer's Disease: Insights into its Mechanisms of Action. Curr Med Chem. 2016;23(9):860-873.

[4]. Xu PX, et al. Rutin improves spatial memory in Alzheimer's disease transgenic mice by reducing Aβ oligomer level and attenuating oxidative stress and neuroinflammation. Behav Brain Res. 2014;264:173-180.

[5]. Abdel-Aleem GA, et al. Rutin hydrate ameliorates cadmium chloride-induced spatial memory loss and neural apoptosis in rats by enhancing levels of acetylcholine, inhibiting JNK and ERK1/2 activation and activating mTOR signalling. Arch Physiol Biochem. 2018;124(4):367-377.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA