Ononetin

Cat. No.: HY-108451

CAS No.: 487-49-0

Molecular Formula: $C_{15}H_{14}O_4$

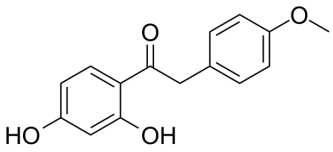
Molecular Weight: 258.27

Target: TRP Channel

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling

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 (387.19 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.8719 mL	19.3596 mL	38.7192 mL
5 mM	0.7744 mL	3.8719 mL	7.7438 mL
10 mM	0.3872 mL	1.9360 mL	3.8719 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (9.68 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (9.68 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (9.68 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Ononetin, a natural deoxybenzoin, is a potent and selective TRPM3 channel blocker with an IC_{50} of 0.3 μM[1].

IC_{50} & Target

TRPM3
0.3 μM (IC_{50})

In Vitro

Ononetin (1-10 μM) completely and reversibly abrogates Ca^{2+} entry and ionic currents through recombinantly expressed TRPM3α2 and block the pregnenolone sulphate-inducible Ca^{2+} entry in primary cultures of mouse or rat dorsal root ganglia

	(DRG) neurones, indicating biological activity towards endogenously expressed TRPM3[1]. Oxidative intermediates of Ononetin may be involved in activating TRPA1, but not in the block of TRPM3 by Ononetin[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Ononetin (10 mg/kg, i.p.) treatment completely reverses established Freund's Complete Adjuvant (FCA)-induced heat hypersensitivity, demonstrating that the loss of hypersensitivity in Trpm3$^{-/-}$ mice is unlikely to be caused by developmental or compensatory mechanisms and suggests that TRPM3 may be a tractable target for inflammatory pain[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. I Straub, et al. Citrus fruit and fabacea secondary metabolites potently and selectively block TRPM3. Br J Pharmacol. 2013 Apr;168(8):1835-50.

[2]. Omar Alkhatib, et al. Promiscuous G-Protein-Coupled Receptor Inhibition of Transient Receptor Potential Melastatin 3 Ion Channels by Gβγ Subunits. J Neurosci. 2019 Oct 2;39(40):7840-7852.

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