# 2,3,5,4'-Tetrahydroxystilbene 2-O-β-D-glucoside

**Cat. No.:** HY-N0652

**CAS No.:** 82373-94-2

**Molecular Formula:** $C_{20}H_{22}O_9$

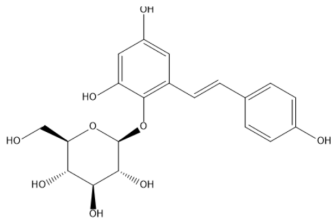
**Molecular Weight:** 406.39

**Target:** ERK; NF-κB

**Pathway:** MAPK/ERK Pathway; Stem Cell/Wnt; NF-κB

**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 (246.07 mM; Need ultrasonic)

$H_2O$ : 10 mg/mL (24.61 mM; Need ultrasonic)

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 2.4607 mL | 12.3035 mL | 24.6069 mL |
| | 5 mM | 0.4921 mL | 2.4607 mL | 4.9214 mL |
| | 10 mM | 0.2461 mL | 1.2303 mL | 2.4607 mL |

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

**In Vivo**

1. Add each solvent one by one: PBS
   Solubility: 16.67 mg/mL (41.02 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (5.12 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (5.12 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.12 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

2,3,5,4'-Tetrahydroxystilbene 2-O-β-D-glucoside isolats from the roots of Polygonaceae species, inhibits the formation of 5-HETE, HHT and thromboxane B2. 2,3,5,4'-Tetrahydroxystilbene 2-O-β-D-glucoside has hypotensive, anti-ageing, anti-inflammatory, hypolipidemic, cardioprotective, and neuroprotective actions[1][2].

**In Vitro**

2,3,4',5-tetrahydroxystilbene 2-O-D-glucoside (5-80 μM, 2 h) inhibits LPS-induced expression of pro-inflammatory cytokine (IL-6 and TNF-α) in RAW264.7 cells[3].
2,3,4',5-tetrahydroxystilbene 2-O-D-glucoside (5-80 μM, 2 h) inhibits the expression of NO and mRNA levels of proinflammatory cytokine (IL-1β, IL-6, TNF-α and COX-2. ) in RAW264.7 cells[3].
2,3,4',5-tetrahydroxystilbene 2-O-D-glucoside (5-80 μM, 2 h) suppresses NF-κB signaling pathway and ERK2 activation in LPS-induced RAW264.7 cells[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[3]

| | |
|---|---|
| Cell Line: | RAW264.7 cells |
| Concentration: | 5-80 μM |
| Incubation Time: | 2 h |
| Result: | Reduced the phosphorylation level of ERK2, IκBα, IKKβ, and NF-κB p65 in a dosedependent manner.<br>Attenuated LPS-induced nuclear translocation with a dose-dependent behavior. |

**In Vivo**

2,3,4',5-tetrahydroxystilbene 2-O-D-glucoside (30-60 mg/kg, i.p., daily, 7 days) can be used to cope with depressive-like symptoms in male ICR mice by inhibition of neuroinflammation and oxido-nitrosative stress[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

| | |
|---|---|
| Animal Model: | Male ICR mice[2] |
| Dosage: | 30-60 mg/kg |
| Administration: | i.p., daily, 7 days |
| Result: | Inhibited the production of proinflammatory cytokines induced by LPS, such as interleukin-1β, interleukin-6, and tumor necrosis factor-α.<br>Prevented the LPS-induced enhancement of oxido-nitrosative stress in mouse hippocampus and prefrontal cortex.<br>Prevented LPS-induced decreases in brain-derived neurotrophic factor levels in the hippocampus and prefrontal cortex. |

## CUSTOMER VALIDATION

- Molecules. 2020 Jul 6;25(13):3070.

See more customer validations on www.MedChemExpress.com

## REFERENCES


[1]. Chen Z, et al. 2, 3, 5, 4'-Tetrahydroxystilbene-2-O-β-D-glucoside prevention of lipopolysaccharide-induced depressive-like behaviors in mice involves neuroinflammation and oxido-nitrosative stress inhibition. Behav Pharmacol. 2017 Aug;28(5):365-374.

[2]. Sun L, et al. Investigation on the mechanism of 2,3,4',5-Tetrahydroxystilbene 2-o-D-glucoside in the treatment of inflammation based on network pharmacology. Comput Biol Med. 2022 Jun;145:105448.

[3]. Kimura Y et al. Effects of stilbenes on arachidonate metabolism in leukocytes. Biochim Biophys Acta. 1985 Apr 25;834(2):275-8.

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

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