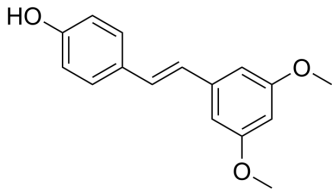
Pterostilbene

Cat. No.:	HY-N0828
CAS No.:	537-42-8
Molecular Formula:	$C_{16}H_{16}O_3$
Molecular Weight:	256.3
Target:	Autophagy
Pathway:	Autophagy
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 1 year -20°C 6 months



SOLVENT & SOLUBILITY

In Vitro

DMSO : 110 mg/mL (429.18 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.9017 mL	19.5084 mL	39.0168 mL
5 mM	0.7803 mL	3.9017 mL	7.8034 mL
10 mM	0.3902 mL	1.9508 mL	3.9017 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: ≥ 3.93 mg/mL (15.33 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.75 mg/mL (10.73 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.75 mg/mL (10.73 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Pterostilbene is a stilbenoid isolated from blueberries and Pterocarpus marsupium[1]. Shows anti-oxidant, anti-inflammatory, anti-carcinogenic, anti-diabetic and anti-obesity properties[1][4]. Pterostilbene blocks ROS production[3], also exhibits inhibitory activity against various free radicals such as DPPH, ABTS, hydroxyl, superoxide and hydrogen peroxide[4].

In Vitro

Pterostilbene (0, 5, 25, 50, 100, 200 and 400 μM) shows inhibitory activity against the growth of HeLa cells, with IC_{50}s of 101.2 μM and 65.9 μM at 24 and 48 hrs, respectively. Ipterostilbene (0, 25, 100 and 200 μM) also induces the apoptosis HeLa cells[2]. Pterostilbene (0.05, 0.1, 0.15 and 0.2 mM) has high anti-oxidant activity against DPPH, ABTS, hydroxyl, superoxide, hydrogen

	peroxide in a dose-dependent manner. Pterostilbene decreases lipid peroxides and hydroperoxides, reduces protein carbonyl groups and restores protein sulphydryl groups in response to damage by TBHP and As-Fe^{2+}. Pterostilbene also inhibits single strand breaks in pBR322[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Pterostilbene (30 mg/kg daily, p.o. for 21 days) inhibits reactive oxygen species production in the animal model of inflammation[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- J Clean Prod. 2023 Mar 28.
- J Agric Food Chem. 2017 Jun 7;65(22):4384-4394.
- Arch Biochem Biophys. 2023 Mar 9;738:109561.
- J Pharmacol Sci. 23 September 2021.
- Immun Inflamm Dis. 2021 Aug 2.

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REFERENCES

[1]. McCormack D, et al. A review of pterostilbene antioxidant activity and disease modification. Oxid Med Cell Longev. 2013;2013:575482.

[2]. Hong Bin W, et al. Pterostilbene (3',5'-dimethoxy-resveratrol) exerts potent antitumor effects in HeLa human cervical cancer cells via disruption of mitochondrial membrane potential, apoptosis induction and targeting m-TOR/PI3K/Akt signalling pathway. J BUON. 2018 Sep-Oct;23(5):1384-1389.

[3]. Perecko T, et al. The effects of pterostilbene on neutrophil activity in experimental model of arthritis. Biomed Res Int. 2013;2013:106041.

[4]. Acharya JD, et al. Protective effect of Pterostilbene against free radical mediated oxidative damage. BMC Complement Altern Med. 2013 Sep 26;13:238.

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