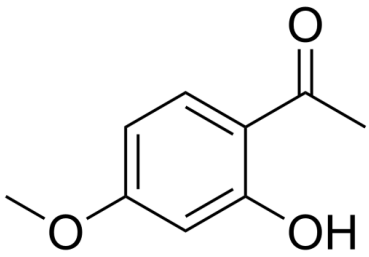
Data Sheet

Product Name:	Paeonol
Cat. No.:	CS-4269
CAS No.:	552-41-0
Molecular Formula:	$C_9H_{10}O_3$
Molecular Weight:	166.17
Target:	Autophagy; Monoamine Oxidase
Pathway:	Autophagy; Neuronal Signaling
Solubility:	DMSO : ≥ 38 mg/mL (228.68 mM); H2O : 1 mg/mL (6.02 mM; Need ultrasonic); Ethanol : 50 mg/mL (300.90 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

Paeonol is an active extraction from the root of ***Paeonia suffruticosa***, Paeonol inhibits **MAO-A** and **MAO-B** with **IC_{50}** of 54.6 μM and 42.5 μM, respectively. IC50 & Target:IC50: 42.5 μM (MAO-B), 54.6 μM (MAO-A)[1] ***In Vitro:***Paeonol is found to be inhibitory against MAO A in a dose-dependent manner with IC_{50} value of 54.6 μM. Paeonol is shown to inhibit MAO-B in a dose-dependent manner with the IC_{50} of 42.5 μM. For Paeonol, the K_i is estimated to be 51.1 μM. The inhibition of Paeonol on MAO B is of competitive type with K_i value of 38.2 μM[1]. ***In Vivo:***The 200 mg/kg Paeonol+I/R group [AN/V (%): 7.6±2.2, p<0.01] and 100 mg/kg Paeonol+I/R group [AN/V (%): 9.4±2.8, p<0.05] both show lesser extents of no-reflow area in the ventricles compared with the I/R group [AN/V (%): 18.2±2.9]. In particular, the 200 mg/kg Paeonol + I/R group experienced markedly alleviated no-reflow in the whole heart [AN/WH (%): 4.6±1, p<0.05] compared with the I/R group [AN/WH (%): 10.0±1.9][2].

PROTOCOL (Extracted from published papers and Only for reference)

Animal Administration: Paeonol is dissolved in DMSO and then diluted with PBS or saline[2].[2]Mice[2]
Male Wistar rats (180-220 g, average age of 8 week) are randomly divided into four groups: (1) sham group, thoracotomy without left anterior descending coronary artery (LAD) occlusion or Paeonol pretreatment; (2) I/R group, LAD occlusion (ischemia) for 4 h followed by reperfusion for 8 h; (3) Paeonol (100 mg/kg)+I/R group, oral administration of 100 mg/kg Paeonol (1 mL/kg) for 7 days using a intragastric tube prior to I/R procedure; (4) Paeonol (200 mg/kg) + I/R group, oral administration of 200 mg/kg Paeonol (1 mL/kg) for 7 days using a intragastric tube prior to I/R procedure. In addition, rats in the sham and I/R groups received a dosage of DMSO equal to that with which the Paeonol was dissolved in for the other two groups. DMSO was also administered intragastrically for 7 consecutive days. A minimum of eight rats were assigned to each group. An ischemia group without reperfusion is not included since our present study mainly focuses on the effect of Paeonol on the cardiac injuries after reperfusion, which is closely related to the real-world situation of no-reflow after coronary revascularization. However, future studies may include a group subjected only to 4 h of ischemia to differentiate, in terms of damage to the cardiac function, which was due to the ischemia and which was due to the no-reflow.

References:

[1]. Kong LD, et al. Inhibition of MAO A and B by some plant-derived alkaloids, phenols and anthraquinones. J Ethnopharmacol. 2004 Apr;91(2-3):351-5.

[2]. Ma L, et al. Paeonol Protects Rat Heart by Improving Regional Blood Perfusion during No-Reflow. Front Physiol. 2016 Jul 21;7:298.

CAIndexNames:

Ethanone, 1-(2-hydroxy-4-methoxyphenyl)-

SMILES:

CC(C1=CC=C(OC)C=C1O)=O

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