

## Paeonol Datasheet

4<sup>th</sup> Edition (Revised in July, 2016)

### [ Product Information ]

**Name:** Paeonol

**Catalog No.:** CFN98926

**Cas No.:** 552-41-0

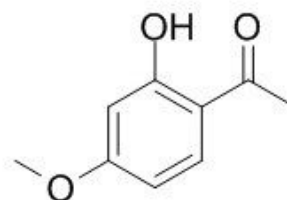
**Purity:** > 98%

**M.F:** C<sub>9</sub>H<sub>10</sub>O<sub>3</sub>

**M.W:** 166.2

**Physical Description:** Oil

**Synonyms:** 1-(2-Hydroxy-4-methoxyphenyl)ethanone.



### [ Intended Use ]

1. Reference standards;
2. Pharmacological research;
3. Synthetic precursor compounds;
4. Intermediates & Fine Chemicals;
5. Others.

### [ Source ]

The root of *Paeonia moutan* Sim.

### [ Biological Activity or Inhibitors ]

Paeonol , the main active compound of the traditionally used Chinese herb *Paeonia lactiflora* Pallas, has anti-inflammatory, antioxidant and cardiovascular protective activities;Paeonol inhibits U937 monocyte adhesion to HUVECs stimulated by TNF- $\alpha$ , the inhibitory effect of paeonol on ICAM-1 production may be mediated by inhibiting p38, ERK and NF- $\kappa$ B signaling pathways, which are involved in TNF- $\alpha$ -induced ICAM-1 production, thus, paeonol may be beneficial in the treatment of cardiovascular disorders such as atherosclerosis.<sup>[1]</sup>

Paeonol exerts its anti-inflammatory and analgesic effects in a rat model of carrageenan-evoked thermal hyperalgesia, the mechanism may be associated with decreased production of proinflammatory cytokines, NO and PGE2 and increased production of IL-10, an anti-inflammatory cytokine in carrageenan-injected rat paws, and attenuation of the elevated iNOS and COX-2 protein expression as well as neutrophil infiltration in carrageenan-injected paws may also be involved in the beneficial effects of paeonol.<sup>[2]</sup>

Paeonol reduces cerebral infarct and neuro-deficit in rat, suggests it might play a similar role in reducing cerebral infarction in humans, it suppresses and scavenges superoxide anion, and inhibits microglia activation and IL-1 $\beta$  in ischemia-reperfusion injured rats.

Paeonol can attenuates neurotoxicity and ameliorates cognitive impairment induced by D-galactose in ICR mice, suggests that paeonol possesses anti-aging efficacy and may have potential in treatment of neurodegenerative diseases.<sup>[3]</sup>

Paeonol has antiproliferation and apoptosis induction in HepG2 cells, also has significantly growth-inhibitory and apoptosis-inducing effects in gastric cancer cells both in vitro and in vivo.<sup>[4,5]</sup>

## **[ Solvent ]**

Chloroform, Dichloromethane, DMSO, Acetone, etc.

## **[ HPLC Method ]<sup>[6]</sup>**

Mobile phase: Methanol : H<sub>2</sub>O=43:57;

Flow rate: 1.0 ml/min;

Column temperature: 25 °C

The wave length of determination: 274 nm.

## **[ Storage ]**

2-8°C, Protected from air and light, refrigerate or freeze.

## **[ References ]**

[1] Nizamutdinova I T, Oh H M, Min Y N, et al. *Int. Immunopharmacol.*, 2007, 7(3):343-50.

[2] Chou T C. *Brit. J. Pharmacol.*, 2003, 139(6):1146-52.

[3] Hsieh C L, Cheng C Y, Tsai T H, et al. *J. Ethnopharmacol.*, 2006, 106(2):208-15.

[4] Zhong S Z, Ge Q H, Qu R, et al. *J. Neurol. Sci.*, 2009, 277(1-2):58-64.

[5] Xu S P, Sun G P, Shen Y X, et al. *World J. Gastroentero.*, 2007, 13(2):250-6.

[6] Li N, Fan L L, Sun G P, et al. *World J. Gastroentero.*, 2010, 16(35):4483-90.

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