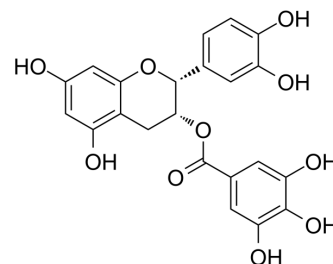


(-)-Epicatechin gallate

Cat. No.:	HY-N0002
CAS No.:	1257-08-5
Molecular Formula:	C ₂₂ H ₁₈ O ₁₀
Molecular Weight:	442.37
Target:	COX; Autophagy; Virus Protease
Pathway:	Immunology/Inflammation; Autophagy; Anti-infection
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 30 mg/mL (67.82 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.2606 mL	11.3028 mL	22.6055 mL
	5 mM	0.4521 mL	2.2606 mL	4.5211 mL
	10 mM	0.2261 mL	1.1303 mL	2.2606 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.17 mg/mL (4.91 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.17 mg/mL (4.91 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.17 mg/mL (4.91 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

(-)-Epicatechin gallate (Epicatechin gallate) inhibits cyclooxygenase-1 (COX-1) with an IC₅₀ of 7.5 μM.

IC₅₀ & Target

COX-1
7.5 μM (IC₅₀)

In Vitro

(-)-Epicatechin gallate (Epicatechin gallate) exhibits >95% inhibitory activity at 70 μg/mL against cyclooxygenase-1 (COX-1) with an IC₅₀ of 7.5 μM^[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

(-)-Epicatechin gallate (Epicatechin gallate), a component of Rhei Rhizoma, is one of the active components of Onpi-to, a herbal medicine composed of five crude drugs (Rhei Rhizome, Glycyrrhizae Radix, Ginseng Radix, Zingiberis Rhizoma and Aconiti Tuber). Following intravenous injection of (-)-Epicatechin gallate (1.0 mg/kg) in rats, the plasma concentration vs. time curve is fitted in a three compartment model. Pharmacokinetic parameters for plasma Epicatechin gallate (ECG) are measured. ECG has a $t_{1/2\alpha}$ of 0.038 h, a $t_{1/2\beta}$ of 0.291 h and a $t_{1/2\gamma}$ of 4.033 h. The CL_{tot} of ECG is 4.19 L/h • kg. The Vd_{ss} is 12.39 L/kg^[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Animal Administration

Rats^[2]

Male Sprague-Dawley rats, obtained at 7 weeks of age (210-245 g) are used. Epicatechin gallate (ECG) is suspended in 0.5% w/v sodium carboxymethylcellulose at 12.5, 25.0 and 50.0 mg/10 mL for oral administration to rats at 10 mL/kg. For intravenous injection in rats at 1.0 mg/kg, an ethanolic solution of Epicatechin gallate is diluted with 10% w/v sodium citrate solution to 1.0 mg/mL; the final concentration of ethanol is 1% v/v^[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Acta Pharm Sin B. 2021 Jan;11(1):143-155.

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REFERENCES

[1]. Waffo-Tégou P, et al. Potential cancer-chemopreventive activities of wine stilbenoids and flavans extracted from grape (*Vitis vinifera*) cell cultures. *Nutr Cancer*. 2001;40(2):173-9.

[2]. Takizawa Y, et al. Pharmacokinetics of (-)-epicatechin-3-O-gallate, an active component of Onpi-to, in rats. *Biol Pharm Bull*. 2003 May;26(5):608-12.

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

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