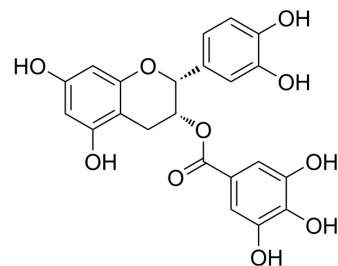


(-)-Epicatechin gallate

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	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	1. 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					
	2. 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					
	3. 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 IC ₅₀ of 7.5 μM.
IC ₅₀ & Target	COX-1 7.5 μM (IC ₅₀)
In Vitro	(-)-Epicatechin gallate (Epicatechin gallate) exhibits >95% inhibitory activity at 70 μg/mL against cyclooxygenase-1 (COX-1) with an IC ₅₀ 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

- Nat Commun. 2023 Mar 22;14(1):1594.
- Acta Pharm Sin B. 2021 Jan;11(1):143-155.
- Arch Biochem Biophys. 2022 Sep 6;109393.
- Acta Biochim Biophys Sin (Shanghai). 2021 Oct 30;gmab144.

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REFERENCES

[1]. Waffo-Téguo 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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