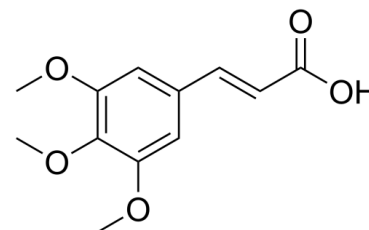


Data Sheet

Product Name:	(E)-3,4,5-Trimethoxycinnamic acid
Cat. No.:	CS-0042365
CAS No.:	20329-98-0
Molecular Formula:	C ₁₂ H ₁₄ O ₅
Molecular Weight:	238.24
Target:	5-HT Receptor; GABA Receptor
Pathway:	GPCR/G Protein; Membrane Transporter/Ion Channel; Neuronal Signaling
Solubility:	DMSO : 100 mg/mL (419.74 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

(E)-3,4,5-Trimethoxycinnamic acid (TMCA) is a cinnamic acid substituted by multi-methoxy groups. (E)-3,4,5-Trimethoxycinnamic acid is an orally active and potent **GABA_A/BZ** receptor agonist. (E)-3,4,5-Trimethoxycinnamic exhibits favourable binding affinity to **5-HT_{2C}** and **5-HT_{1A}** receptor, with **IC₅₀** values of 2.5 and 7.6 μ M, respectively. (E)-3,4,5-Trimethoxycinnamic acid shows anticonvulsant and sedative activity. (E)-3,4,5-Trimethoxycinnamic acid can be used for the research of insomnia, headache and epilepsy^{[1][2][3]}. *In Vitro*: (E)-3,4,5-Trimethoxycinnamic acid (10 μ g/mL, 1 h) increases the expressions of GAD₆₅ and γ -subunit of GABA_A receptors in the cerebellar granule cells^[3]. (E)-3,4,5-Trimethoxycinnamic acid (0-10 μ g/mL, 1 h) shows a significant increase in Cl⁻ influx^[3]. *In Vivo*: (E)-3,4,5-Trimethoxycinnamic acid (0-20 mg/kg, IP, once) shows anti-seizure effects^[2]. (E)-3,4,5-Trimethoxycinnamic acid (0-10 mg/kg, Orally, once) enhances hypnotic effects in pentobarbital-treated mice^[3].

References:

- [1]. Zhao Z, et al. Research progress in the biological activities of 3,4,5-trimethoxycinnamic acid (TMCA) derivatives. Eur J Med Chem. 2019 Jul 1;173:213-227.
- [2]. Chen CY, et al. 3,4,5-Trimethoxycinnamic acid, one of the constituents of Polygalae Radix exerts anti-seizure effects by modulating GABAergic systems in mice. J Pharmacol Sci. 2016 May;131(1):1-5.
- [3]. Lee Cl, et al. 3,4,5-Trimethoxycinnamic acid (TMCA), one of the constituents of Polygalae Radix enhances pentobarbital-induced sleeping behaviors via GABAergic systems in mice. Arch Pharm Res. 2013 Oct;36(10):1244-51.

CAIndexNames:

2-Propenoic acid, 3-(3,4,5-trimethoxyphenyl)-, (2E)-

SMILES:

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

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

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