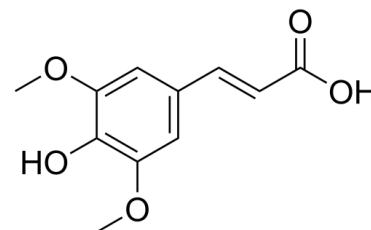


Data Sheet

Product Name:	Sinapinic acid
Cat. No.:	CS-W010448
CAS No.:	530-59-6
Molecular Formula:	C ₁₁ H ₁₂ O ₅
Molecular Weight:	224.21
Target:	Angiotensin-converting Enzyme (ACE); Apoptosis; HDAC; Reactive Oxygen Species
Pathway:	Apoptosis; Cell Cycle/DNA Damage; Epigenetics; Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
Solubility:	Ethanol : 25 mg/mL (111.50 mM; Need ultrasonic); DMSO : 100 mg/mL (446.01 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

Sinapinic acid (Sinapic acid) is a phenolic compound isolated from *Hydnophytum formicarum* Jack. Rhizome, acts as an inhibitor of **HDAC**, with an **IC₅₀** of 2.27 mM^[1], and also inhibits **ACE-I** activity^[2]. Sinapinic acid possess potent anti-tumor activity, induces apoptosis of tumor cells^[1]. Sinapinic acid shows antioxidant and antidiabetic activities^[2]. Sinapinic acid reduces total cholesterol, triglyceride, and HOMA-IR index, and also normalizes some serum parameters of antioxidative abilities and oxidative damage in ovariectomized rats^[3]. **IC₅₀ & Target:** IC₅₀: 2.27 mM (HDAC)^[1]

ACE-I^[2] In Vitro: Sinapinic acid acts as an inhibitor of HDAC, with an **IC₅₀** of 2.27 mM^[1]. Sinapinic acid also inhibits ACE-I activity^[2]. Sinapinic acid inhibits HDAC activity in HeLa cells, suppresses the growth of HeLa and HT29 cells with **IC₅₀s** of 0.91 ± 0.02 mM and 1.6 ± 0.02 mM at 72 h, respectively, induces apoptosis of these cancer cells^[1]. **In Vivo:** Sinapinic acid (5 or 25 mg/kg, p.o. daily for 4 weeks) increases the serum estradiol concentration; decreases insulin resistance and the triglyceride and total cholesterol concentrations; and favorably affects the parameters of antioxidant abilities (reduces glutathione, superoxide dismutase) and oxidative damage in rats^[3].

References:

- [1]. Senawong T, et al. Histone deacetylase (HDAC) inhibitory and antiproliferative activities of phenolic-rich extracts derived from the rhizome of *Hydnophytum formicarum* Jack.: sinapinic acid acts as HDAC inhibitor. *BMC Complement Altern Med.* 2013 Sep 22;13:232.
- [2]. Quinn L, et al. Extraction and Quantification of Sinapinic Acid from Irish Rapeseed Meal and Assessment of Angiotensin-I Converting Enzyme (ACE-I) Inhibitory Activity. *J Agric Food Chem.* 2017 Aug 16;65(32):6886-6892.
- [3]. Zych M, et al. The Effects of Sinapic Acid on the Development of Metabolic Disorders Induced by Estrogen Deficiency in Rats. *Oxid Med Cell Longev.* 2018 Jun 4;2018:9274246.

CAIndexNames:

2-Propenoic acid, 3-(4-hydroxy-3,5-dimethoxyphenyl)-

SMILES:

COC1=C(O)C(OC)=CC(/C=C/C(O)=O)=C1

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

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