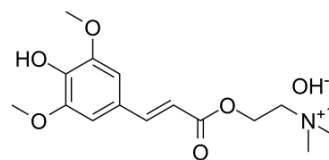


Sinapine hydroxide

Cat. No.:	HY-N5077B
CAS No.:	122-30-5
Molecular Formula:	C ₁₆ H ₂₅ NO ₆
Molecular Weight:	327.37
Target:	AChE; P-glycoprotein
Pathway:	Neuronal Signaling; Membrane Transporter/Ion Channel
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Sinapine hydroxide is an alkaloid isolated from seeds of the cruciferous species. Sinapine hydroxide exhibits anti-inflammatory, anti-oxidant, anti-tumor, anti-angiogenic and radio-protective effects. Sinapine hydroxide is also an acetylcholinesterase (AChE) inhibitor and can be used for the research of Alzheimer's disease, ataxia, myasthenia gravis, and Parkinson's disease ^{[1][2][3][4]} .
IC₅₀ & Target	AChE ^[4] , P-gp ^[1]
In Vitro	<p>Sinapine (6 or 60 μM; 1 h) counteracts H₂O₂ and antimycin A-induced mitochondrial oxidative stress in cardiomyocytes^[1].</p> <p>Sinapine (10-200 μM; 24 h) inhibits the proliferation of Caco-2 cells in a dose-dependent manner, and has relatively low toxicity^[3].</p> <p>Sinapine (10-200 μM; 24 h) promotes doxorubicin accumulation in Caco-2 cell by inducing P-glycoprotein (P-gp) decrease^[3].</p> <p>Sinapine (10-200 μM; 24 h) significantly reduces phosphorylation of FRS2α, ERK1/2^[3].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
In Vivo	<p>Sinapine reduces non-alcoholic fatty liver disease in mice by modulating the composition of the gut microbiota^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

REFERENCES

- [1]. Boulghobra D, et, al. Sinapine, but not sinapic acid, counteracts mitochondrial oxidative stress in cardiomyocytes. *Redox Biol.* 2020 Jul;34:101554.
- [2]. Li Y, et, al. Sinapine reduces non-alcoholic fatty liver disease in mice by modulating the composition of the gut microbiota. *Food Funct.* 2019 Jun 19;10(6):3637-3649.
- [3]. Guo Y, et, al. Sinapine as an active compound for inhibiting the proliferation of Caco-2 cells via downregulation of P-glycoprotein. *Food Chem Toxicol.* 2014 May;67:187-92.
- [4]. Yates K, et, al. Determination of sinapine in rapeseed pomace extract: Its antioxidant and acetylcholinesterase inhibition properties. *Food Chem.* 2019 Mar 15;276:768-775.

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

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