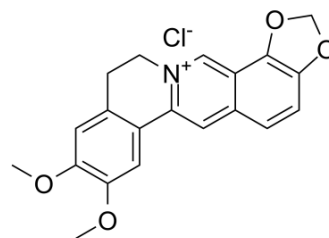


Epiberberine chloride

Cat. No.:	HY-N0226A		
CAS No.:	889665-86-5		
Molecular Formula:	C ₂₀ H ₁₈ ClNO ₄		
Molecular Weight:	371.81		
Target:	AChE; Beta-secretase; Reactive Oxygen Species		
Pathway:	Neuronal Signaling; Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro	DMSO : 25 mg/mL (67.24 mM; Need ultrasonic)					
		Solvent Concentration	Mass	1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM		2.6895 mL	13.4477 mL	26.8955 mL
		5 mM		0.5379 mL	2.6895 mL	5.3791 mL
10 mM			0.2690 mL	1.3448 mL	2.6895 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (6.72 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	<p>Epiberberine chloride is an alkaloid isolated from <i>Coptis chinensis</i>, acts as a potent AChE and BChE inhibitor, and a non-competitive BACE1 inhibitor, with IC₅₀s of 1.07, 6.03 and 8.55 μM, respectively. Epiberberine chloride has antioxidant activity, with peroxynitrite ONOO⁻ scavenging effect (IC₅₀, 16.83 μM), and may protect against Alzheimer disease^[1]. Epiberberine chloride inhibits the early stage of differentiation of 3T3-L1 preadipocytes, downregulates the Raf/MEK1/2/ERK1/2 and AMPKα/Akt pathways^[2]. Epiberberine has the potential effect in the research of diabetic disease^[3].</p>
In Vitro	<p>Epiberberine (0, 12.5, 25, or 50 μM) dose-dependently inhibits cellular triglyceride accumulation in 3T3-L1 adipocytes, with an IC₅₀ of 52.8 μM^[2]. Epiberberine (12.5-50 μM) suppresses the Raf/MEK1/ERK1/2 and AMPKα/Akt pathways in the early stage of 3T3-L1 adipocyte differentiation^[2]. Epiberberine (0.2, 1, 5 μg/mL) inhibits glucose uptake in HepG2 cells in a concentration-dependent manner^[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

In Vivo

Epiberberine (225 mg/kg, p.o. daily for 40 days) reduces body weight, food consumption, water intake, and urinary output of KK-Ay mice^[3].

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

REFERENCES

- [1]. Jung HA, et al. Anti-Alzheimer and antioxidant activities of Coptidis Rhizoma alkaloids. *Biol Pharm Bull.* 2009 Aug;32(8):1433-8.
- [2]. Choi JS, et al. Anti-adipogenic effect of epiberberine is mediated by regulation of the Raf/MEK1/2/ERK1/2 and AMPK α /Akt pathways. *Arch Pharm Res.* 2015 Dec;38(12):2153-62.
- [3]. Ma H, et al. Antihyperglycemia and Antihyperlipidemia Effect of Protoberberine Alkaloids From Rhizoma Coptidis in HepG2 Cell and Diabetic KK-Ay Mice. *Drug Dev Res.* 2016 Jun;77(4):163-70.
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Caution: Product has not been fully validated for medical applications. For research use only.

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