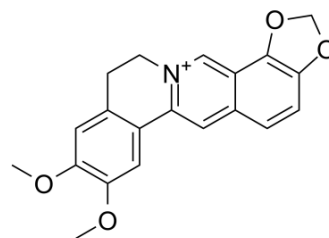


## Epiberberine

<b>Cat. No.:</b>	HY-N0226		
<b>CAS No.:</b>	6873-09-2		
<b>Molecular Formula:</b>	C <sub>20</sub> H <sub>18</sub> NO <sub>4</sub> <sup>+</sup>		
<b>Molecular Weight:</b>	336.36		
<b>Target:</b>	AChE; Beta-secretase		
<b>Pathway:</b>	Neuronal Signaling		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### BIOLOGICAL ACTIVITY

<b>Description</b>	Epiberberine is an alkaloid isolated from <i>Coptis chinensis</i> , acts as a potent AChE and BChE inhibitor, and a non-competitive BACE1 inhibitor, with IC <sub>50</sub> s of 1.07, 6.03 and 8.55 μM, respectively. Epiberberine has antioxidant activity, with peroxynitrite ONOO <sup>-</sup> scavenging effect (IC <sub>50</sub> , 16.83 μM), and can be used for the research of Alzheimer disease <sup>[1]</sup> . Epiberberine inhibits the early stage of differentiation of 3T3-L1 preadipocytes, downregulates the Raf/MEK1/2/ERK1/2 and AMPKα/Akt pathways <sup>[2]</sup> . Epiberberine can be used for the research of diabetic disease <sup>[3]</sup> .
<b>IC<sub>50</sub> &amp; Target</b>	IC <sub>50</sub> : 1.07 μM (AChE), 6.03 μM (BChE), 8.55 μM (BACE1) <sup>[2]</sup>
<b>In Vitro</b>	Epiberberine (0, 12.5, 25, or 50 μM) dose-dependently inhibits cellular triglyceride accumulation in 3T3-L1 adipocytes, with an IC <sub>50</sub> of 52.8 μM <sup>[2]</sup> . Epiberberine (12.5-50 μM) suppresses the Raf/MEK1/ERK1/2 and AMPKα/Akt pathways in the early stage of 3T3-L1 adipocyte differentiation <sup>[2]</sup> . Epiberberine (0.2, 1, 5 μg/mL) inhibits glucose uptake in HepG2 cells in a concentration-dependent manner <sup>[3]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	Epiberberine (225 mg/kg, p.o. daily for 40 days) reduces body weight, food consumption, water intake, and urinary output of KK-Ay mice <sup>[3]</sup> . 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 AMPKα/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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