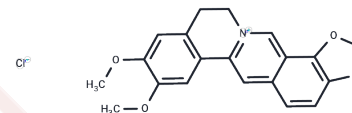


## Epiberberine chloride

## Chemical Properties

CAS No. :	889665-86-5
Formula:	C <sub>20</sub> H <sub>18</sub> ClNO <sub>4</sub>
Molecular Weight:	371.81
Storage:	Keep away from moisture Powder: -20°C for 3 years   In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



## Biological Description

Description	Epiberberine chloride, a natural pro-berberine from <i>Coptis chinensis</i> Franch. is an AChE, BChE, and BACE1 inhibitor with IC <sub>50</sub> values of 1.07, 6.03, and 8.55 μM, respectively. Epiberberine chloride has antioxidant effects and inhibits the effects of Ca9-22 and Fa2R. Epiberberine chloride has antioxidant effects, inhibits the motility of Ca9-22 and FaDu cell lines, and can be used to study hyperlipidemia, Alzheimer's disease and diabetes.
Targets(IC <sub>50</sub> )	Antioxidant, Reactive Oxygen Species, Beta-Secretase, BACE, AChR, Cholinesterase (ChE), ROS
In vitro	Epiberberine chloride has antioxidant activity, with peroxynitrite ONOO <sup>-</sup> scavenging effect (IC <sub>50</sub> , 16.83 μM), and may protect against Alzheimer disease[1]. Epiberberine (0, 12.5, 25, or 50 μM) dose-dependently inhibits cellular triglyceride accumulation in 3T3-L1 adipocytes (IC <sub>50</sub> : 52.8 μM). 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].
In vivo	Body weight, food consumption, water intake, and urinary output of KK-Ay mice were reduced after being treated with Epiberberine (225 mg/kg, p.o. daily for 40 days).

## Solubility Information

Solubility	DMSO: 20 mg/mL (53.79 mM), Sonication is recommended. ( < 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 2 mg/mL (5.38 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	2.6895 mL	13.4477 mL	26.8955 mL
5 mM	0.5379 mL	2.6895 mL	5.3791 mL
10 mM	0.269 mL	1.3448 mL	2.6895 mL
50 mM	0.0538 mL	0.269 mL	0.5379 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Jung HA, et al. Anti-Alzheimer and antioxidant activities of Coptidis Rhizoma alkaloids. *Biol Pharm Bull.* 2009 Aug; 32(8):1433-8.

Choi JS, et al. Anti-adipogenic effect of epiberberine is mediated by regulation of the Raf/MEK1/2/ERK1/2 and AMPK $\alpha$ /Akt pathways. *Arch Pharm Res.* 2015 Dec;38(12):2153-62.

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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