

## Berberine sulfate

### Chemical Properties

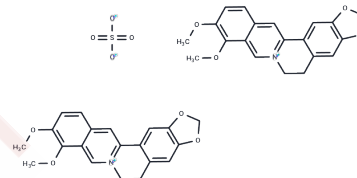
CAS No. : 316-41-6

Formula: C40H36N2O12S

Molecular Weight: 768.78

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



### Biological Description

Description	Berberine sulfate (Berberal) is a quaternary ammonium salt of the benzylisoquinoline alkaloid proto-berberines, which can be used in the study of type 2 diabetes mellitus, abdominal obesity and metabolism-related fatty liver disease.
Targets(IC50)	Apoptosis,Others,NF-κB,Reactive Oxygen Species,Akt,Caspase,Antibacterial,Antibiotic, Autophagy,DNA/RNA Synthesis,JNK,PI3K,ROS,Topoisomerase
In vitro	Berberine sulfate (1.25-160 μM; 72 h) has a potential inhibitory effect on the proliferation of four colorectal cancer cell lines, LoVo, HCT116, SW480, and HT-29.[5] Berberine sulfate (1.25-160 μM; 24-72 h) induces time- and dose-dependent inhibition of LoVo cell growth.[5] LoVo cells were exposed to Berberine sulfate (10 -80 μM) for 24 hours. Cell cycle analysis of LoVo cells treated with 40 μM berberine by flow cytometry showed an accumulation of cells in the G2/M phase.[5] Berberine sulfate (10 -80 μM) inhibits the expression of cyclin B1, cdc2, and cdc25c proteins after 24 hours, especially at the dose of 80.0 μM.[5]
In vivo	Berberine sulfate (10, 30, or 50 mg/kg/day; gastrointestinal gavage; 10 consecutive days) inhibits the growth of human colorectal adenocarcinoma in vivo. Berberine (30 and 50 mg/kg/d; gastrointestinal gavage) inhibited the growth of human colorectal adenocarcinoma xenografts in nude mice by 33.1% and 45.3%, respectively.[5]

### Solubility Information

Solubility	DMSO: 7.69 mg/mL (10 mM),Sonication is recommended. H2O: 38.46 mg/mL (50.03 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.3008 mL	6.5038 mL	13.0076 mL
5 mM	0.2602 mL	1.3008 mL	2.6015 mL
10 mM	0.1301 mL	0.6504 mL	1.3008 mL
50 mM	0.026 mL	0.1301 mL	0.2602 mL

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

- Gholampour F, et al. Berberine protects the liver and kidney against functional disorders and histological damages induced by ferrous sulfate. *Iran J Basic Med Sci.* 2018 May;21(5):476-482.
- Zhang LC, et al. Berberine alleviates dextran sodium sulfate-induced colitis by improving intestinal barrier function and reducing inflammation and oxidative stress. *Exp Ther Med.* 2017 Jun;13(6):3374-3382.
- Li YH, et al. Berberine ameliorates chronic relapsing dextran sulfate sodium-induced colitis in C57BL/6 mice by suppressing Th17 responses. *Pharmacol Res.* 2016 Aug;110:227-239.
- Zhou L, et al. Berberine Sulfate Attenuates Osteoclast Differentiation through RANKL Induced NF- $\kappa$ B and NFAT Pathways. *Int J Mol Sci.* 2015 Nov 13;16(11):27087-96.
- Cai Y, et al. Berberine inhibits the growth of human colorectal adenocarcinoma in vitro and in vivo. *J Nat Med.* 2014;68(1):53-62.

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