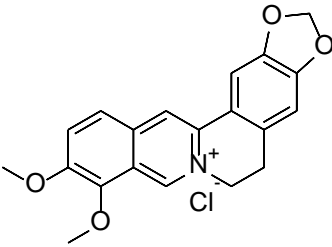


Product data sheet



MedKoo Cat#: 563251 Name: Berberine chloride CAS#: 633-65-8 (chloride) Chemical Formula: C ₂₀ H ₁₈ ClNO ₄ Exact Mass: 371.0924 Molecular Weight: 371.81	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

Berberine chloride is a regulator of HuR in LPS-induced macrophages. It acts by decreasing iNOS mRNA stability, and is an antineoplastic, radiosensitizing, anti-inflammatory, anti-lipidemic and antidiabetic agent.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	38.75	104.22
DMSO:PBS (pH 7.2) (1:4)	0.20	0.54

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.69 mL	13.45 mL	26.90 mL
5 mM	0.54 mL	2.69 mL	5.38 mL
10 mM	0.27 mL	1.34 mL	2.69 mL
50 mM	0.05 mL	0.27 mL	0.54 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Wan JJ, Brown RS, Kielian M. Berberine Chloride is an Alphavirus Inhibitor That Targets Nucleocapsid Assembly. *mBio*. 2020 Jun 30;11(3):e01382-20. doi: 10.1128/mBio.01382-20. PMID: 32605989; PMCID: PMC7327175.
2. Chen J, Huang X, Tao C, Wang L, Chen Z, Li X, Zeng Q, Ma M, Zhang R, Wu Z. Berberine chloride suppresses non-small cell lung cancer by deregulating Sin3A/TOP2B pathway in vitro and in vivo. *Cancer Chemother Pharmacol*. 2020 Jul;86(1):151-161. doi: 10.1007/s00280-020-04050-y. Epub 2020 Jun 30. PMID: 32607786.

In vivo study

1. Aski ML, Rezvani ME, Khaksari M, Hafizi Z, Pirmoradi Z, Niknazar S, Mehrjerdi FZ. Neuroprotective effect of berberine chloride on cognitive impairment and hippocampal damage in experimental model of vascular dementia. *Iran J Basic Med Sci*. 2018 Jan;21(1):53-58. doi: 10.22038/IJBMS.2017.23195.5865. PMID: 29372037; PMCID: PMC5776437.
2. Li YH, Xiao HT, Hu DD, Fatima S, Lin CY, Mu HX, Lee NP, Bian ZX. Berberine ameliorates chronic relapsing dextran sulfate sodium-induced colitis in C57BL/6 mice by suppressing Th17 responses. *Pharmacol Res*. 2016 Aug;110:227-239. doi: 10.1016/j.phrs.2016.02.010. Epub 2016 Mar 9. PMID: 26969793.

7. Bioactivity

Biological target:

Product data sheet



Berberine chloride induces reactive oxygen species (ROS) generation and inhibits DNA topoisomerase.

In vitro activity

Berberine chloride (BBC) inhibited the proliferation and colony formation of human non-small cell lung cancer (NSCLC) cells in a dose- and time-dependent manner. In addition, BBC induced DNA double-stranded breaks (DSBs) through downregulating TOP2B level, leading to apoptosis in human NSCLC cells. Furthermore, BBC decreased Sin3A expression and shortened the half-life of Sin3A, resulting in downregulation of TOP2B in human NSCLC cells.

Reference: Cancer Chemother Pharmacol. 2020 Jul;86(1):151-161. <https://link.springer.com/article/10.1007/s00280-020-04050-y>

In vivo activity

A dextran sulfate sodium (DSS)-induced chronic relapsing colitis model was used to assess the ameliorating activity of berberine. The colitis mice were orally administered 20mg/kg berberine from day 13 onward for 30days and monitored daily. Results showed that berberine significantly ameliorated the disease activity index (DAI), colon shortening, colon tissue injury, and reduction of colonic expression of tight junction (TJ) protein ZO-1 and occludin of colitis mice. Notably, berberine treatment pronouncedly reduced DSS-upregulated Th17-related cytokine (IL-17 and ROR- γ t) mRNAs in the colon. Furthermore, the mRNA expression of IL-6 and IL-23, and the phosphorylation of STAT3 in colon tissues from DSS-treated mice were pronouncedly inhibited by berberine.

Reference: Pharmacol Res. 2016 Aug;110:227-239.

<https://www.sciencedirect.com/science/article/abs/pii/S1043661816300901?via%3Dihub>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.