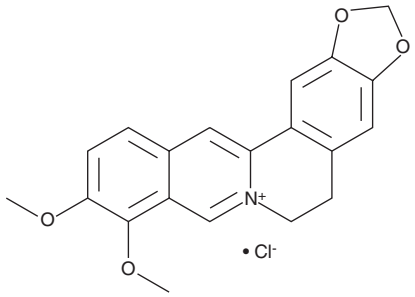
PRODUCT INFORMATION

Berberine (chloride)

Item No. 10006427

CAS Registry No.:	633-65-8
Formal Name:	5,6-dihydro-9,10-dimethoxy-benzo[g]-1,3-benzodioxolo[5,6-a] quinolizinium, monochloride
Synonyms:	BBR, Umbellatine, NSC 163088, NSC 646666
MF:	$C_{20}H_{18}NO_4 \bullet Cl$
FW:	371.8
Purity:	≥95%
UV/Vis.:	λ_{max}: 230, 266, 348, 431 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Synthetic



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Berberine (chloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the berberine (chloride) in the solvent of choice. Berberine (chloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of berberine (chloride) in ethanol and DMF is approximately 500 µg/ml and approximately 25 mg/ml in DMSO.

Berberine (chloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, berberine (chloride) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Berberine (chloride) has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Berberine is an isoquinoline alkaloid that has been found in *C. fenestratum* and has diverse biological activities.[1-5] It induces frameshift mutations and gene crossovers in haploid and diploid strains of *S. cerevisiae* in the exponential growth phase, respectively, when used at a concentration of 50 µg/ml.[2] Berberine is active against the *S. aureus* strains ATCC 25922 and NCTC 8530 (MIC = 250 µg/ml for both).[3] It decreases contusion volume, ventricle enlargement, and neurological deficits in a mouse model of controlled cortical impact-induced traumatic brain injury (TBI) when administered at a dose of 10 mg/kg.[4] Berberine (50 mg/kg) reduces serum LDL cholesterol levels in hamsters fed a high-fat high-cholesterol diet.[5]

References

1. Malhotra, S., Taneja, S.C., and Dhar, K.L. *Phytochem.* **28(7)**, 1998-1999 (1989).
2. Pasqual, M.S., Lauer, C.P., Moyna, P., *et al. Mutation Research* **286(2)**, 243-252 (1993).
3. Iwasa, K., Kamigauchi, M., Ueki, M., *et al. Eur. J. Med. Chem.* **31(6)**, 469-478 (1996).
4. Chen, C.C., Hung, T.H., Lee, C.Y., *et al. PLoS One* **9(12)**, e115694 (2014).
5. Kong, W., Wei, J., Abidi, P., *et al. Nature Medicine* **10(12)**, 1344-1351 (2004).

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