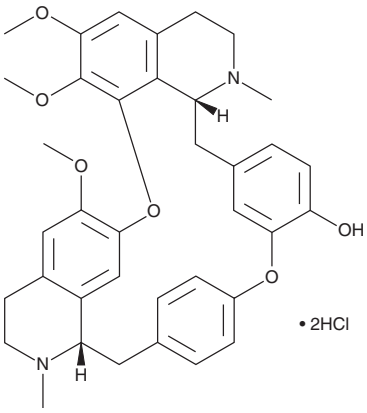
PRODUCT INFORMATION

Berbamine (hydrochloride)

Item No. 35593

CAS Registry No.:	6078-17-7
Formal Name:	3,4,4aS,5,16aR,17,18,19-octahydro-21,22,26-trimethoxy-4,17-dimethyl-16H-1,24:6,9-dietheno-11,15-metheno-2H-pyrido[2′,3′:17,18][1,11]dioxacycloeicosino[2,3,4-ij]isoquinolin-12-ol, dihydrochloride
MF:	$C_{37}H_{40}N_2O_6 \bullet 2HCl$
FW:	681.7
Purity:	≥95%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Berberis julianae*



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

Laboratory Procedures

Berbamine (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the berbamine (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Berbamine (hydrochloride) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of berbamine (hydrochloride) in these solvents is approximately 12 mgl/ml. Berbamine (hydrochloride) is also slightly soluble in ethanol.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of berbamine (hydrochloride) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of berbamine (hydrochloride) in PBS (pH 7.2) is approximately 0.25 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Berbamine is a bisbenzylisoquinoline alkaloid that has been found in *B. aristata* and has diverse biological activities.[1-4] It induces apoptosis and autophagy in, and is cytotoxic to, HT-29 cells when used at concentrations ranging from 3 to 100 µM.[1] Berbamine reduces viral infectivity in Vero E6 cells infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; IC_{50} = 2.35 µM) and decreases cell surface levels of angiotensin-converting enzyme 2 (ACE2) in Huh7 cells when used at a concentration of 10 µM.[2] *In vivo*, berbamine (25 and 50 mg/kg) reduces hepatic lipid accumulation and inflammatory cytokine levels, serum and hepatic triglyceride and total cholesterol levels, and serum aspartate aminotransferase (AST) and alanine transaminase (ALT) levels in a mouse model of ethanol-induced liver injury.[3] It also protects against myocardial apoptosis, mitochondrial dysfunction, and lipid peroxidation in a rat model of myocardial infarction induced by isoproterenol (Item No. 15592).[4]

References

1. Mou, L., Liang, B., Liu, G., *et al. J. BUON* **24(5)**, 1870-1875 (2019).
2. Huang, L., Yuen, T.T.-T., Ye, Z., *et al. Signal Transduct. Target. Ther.* **6(1)**, 168 (2021).
3. Liu, X.-Y., Chen, G.-N., Du, G.-M., *et al. Chin. J. Nat. Med.* **18(3)**, 186-195 (2020).
4. Saranya, S., Baskaran, R., Poornima, P., *et al. J. Cell. Biochem.* **120(3)**, 3101-3113 (2019).

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