

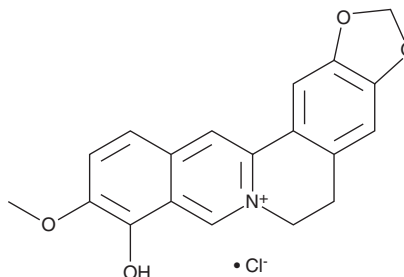
PRODUCT INFORMATION



Berberrubine (chloride)

Item No. 42515

CAS Registry No.: 15401-69-1
Formal Name: 5,6-dihydro-9-hydroxy-10-methoxy-bnzo[g]-1,3-benzodioxolo[5,6-a]quinolizinium, monochloride
MF: C₁₉H₁₆NO₄ • Cl
FW: 357.8
Purity: ≥98%
Supplied as: A 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

Berberrubine (chloride) is supplied as a solid. A stock solution may be made by dissolving the berberrubine (chloride) in the solvent of choice, which should be purged with an inert gas. Berberrubine (chloride) is sparingly soluble (1-10 mg/ml) in DMSO and slightly soluble (0.1-1 mg/ml) 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 berberrubine (chloride) can be prepared by directly dissolving the solid in aqueous buffers. Berberrubine (chloride) is sparingly soluble (1-10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

Berberrubine is an isoquinoline alkaloid that has been found in *C. chinensis* and has diverse biological activities.¹⁻⁷ It is also an active metabolite of berberine (Item No. 10006427).^{1,2} Berberrubine (600 μM) scavenges hydroxyl radicals and chelates ferrous iron in cell-free assays.³ It potentiates topoisomerase II-induced cleavage of isolated *E. coli* DNA when used at a concentration of 10 μM.⁴ Berberrubine inhibits N-methyl-4-phenylpyridinium (MPP⁺) uptake in MDCK cells expressing human organic cation transporter 1 (OCT1), OCT2, or OCT3 (IC₅₀s = 1.26, 8.3, and 4.88 μM, respectively).⁵ It decreases triglyceride levels without inducing cytotoxicity in HepG2 liver cells when used at a concentration of 15 μM.⁶ *In vivo*, berberrubine (20 mg/kg per day) increases intestinal length, decreases disease severity and colonic epithelial deterioration, reduces colonic TNF-α, IFN-γ, IL-6, IL-1β, IL-4, and IL-10 levels, and decreases colonic myeloperoxidase (MPO) activity in a mouse model of ulcerative colitis induced by dextran sodium sulfate (DSS).⁷

References

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3. Jang, M.H., Kim, H.Y., Kang, K.S., et al. *Arch. Pharm. Res.* **32**(3), 341-345 (2009).
4. Kobayashi, Y., Yamashita, Y., Fujii, N., et al. *Planta Med.* **61**(5), 414-418 (1995).
5. Li, L., Sun, S., Weng, Y., et al. *Xenobiotica* **46**(2), 175-183 (2016).
6. Cao, S., Zhou, Y., Xu, P., et al. *J. Ethnopharmacol.* **149**(2), 576-582 (2013).
7. Yu, X.T., Xu, Y.F., Huang, Y.F., et al. *PLoS One* **13**(3), e0194069 (2018).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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