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PRODUCT INFORMATION



Berberine-d₆ (chloride)

Item No. 34851

Formal Name: 5,6-dihydro-9,10-dimethoxy-d₆-benzo[g]-1,3-benzodioxolo[5,6-a]quinolizinium, monochloride

Synonyms: BBR-d₆, Umbellatine-d₆

MF: C₂₀H₁₂D₆NO₄ • Cl

FW: 377.9

Chemical Purity: ≥95% (Berberine)

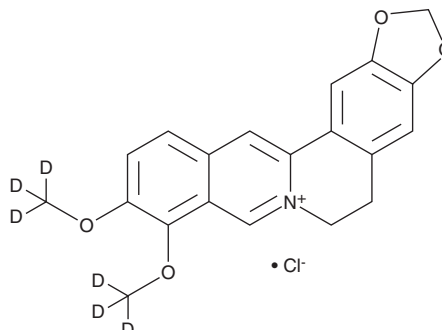
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₆); ≤1% d₀

Supplied as: A solid

Storage: -20°C

Stability: ≥2 years

Item Origin: Synthetic



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

Laboratory Procedures

Berberine-d₆ (chloride) is intended for use as an internal standard for the quantification of berberine (Item No. 10006427) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Berberine-d₆ (chloride) is supplied as a solid. A stock solution may be made by dissolving the berberine-d₆ (chloride) in the solvent of choice, which should be purged with an inert gas. Berberine-d₆ (chloride) is slightly soluble in DMSO and methanol.

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*, respectively, in the exponential growth phase 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. Minor alkaloid from *Coscinium fenestratum*. *Phytochem.* **28**(7), 1998-1999 (1989).
2. Pasqual, M.S., Lauer, C.P., Moyna, P., *et al.* Genotoxicity of the isoquinoline alkaloid berberine in prokaryotic and eukaryotic organisms. *Mutat. Res.* **286**(2), 243-252 (1993).
3. Iwasa, K., Kamigauchi, M., Ueki, M., *et al.* Antibacterial activity and structure-activity relationships of berberine analogs. *Eur. J. Med. Chem.* **31**(6), 469-478 (1996).
4. Chen, C.C., Hung, T.H., Lee, C.Y., *et al.* Berberine protects against neuronal damage via suppression of glia-mediated inflammation in traumatic brain injury. *PLoS One* **9**(12), e115694 (2014).
5. Kong, W., Wei, J., Abidi, P., *et al.* Berberine is a novel cholesterol-lowering drug working through a unique mechanism distinct from statins. *Nat. Med.* **10**(12), 1344-1351 (2004).

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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