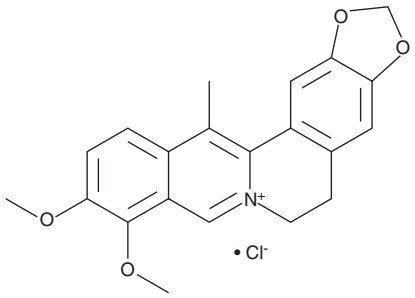
PRODUCT INFORMATION

13-Methylberberine (chloride)

Item No. 21154

CAS Registry No.:	54260-72-9
Formal Name:	5,6-dihydro-9,10-dimethoxy-13-methyl-benzo[g]-1,3-benzodioxolo[5,6-a] quinolizinium, monochloride
Synonym:	13-MB
MF:	$C_{21}H_{20}NO_4$ • Cl
FW:	385.8
Purity:	≥98%
UV/Vis.:	λ_{max}: 232, 266, 342, 423 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

13-Methylberberine (13-MB) (chloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the 13-MB (chloride) in water. The solubility of 13-MB (chloride) in water is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

13-MB (chloride) is a 13-methyl-substituted derivative of berberine (Item No. 10006427). Berberine is a widely distributed berberidaceaen alkaloid found in plant tissues that has antibacterial, anti-inflammatory, antitumor, anti-obesity, and hypercholesterolemic activity.[1,2] 13-MB has improved antibacterial activity against *S. aureus* (MIC = 125 µg/ml) and improved antitumor activity with a mean GI_{50} value of 11.7 µM, as compared to berberine.[3-5] 13-MB also induces down-regulation of adipocyte differentiation transcription factors, reduces *de novo* lipid synthesis, and accumulates in murine 3T3-L1 adipocytes at higher levels than berberine, suggesting improved anti-obesity activity.[1]

References

1. Chow, Y.-L., Sogame, M., and Sato, F. 13-Methylberberine, a berberine analogue with stronger anti-adipogenic effects on mouse 3T3-L1 cells. *Sci. Rep.* **6**, 38129 (2016).
2. 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).
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. Iwasa, K., Moriyasu, M., Yamori, T., *et al.* In vitro cytotoxicity of the protoberberine-type alkaloids. *J. Nat. Prod.* **64(7)**, 896-898 (2001).
5. Lee, D.U., Kang, Y.J., Park, M.K., *et al.* Effects of 13-alkyl-substituted berberine alkaloids on the expression of COX-II, TNF-α, iNOS, and IL-12 production in LPS-stimulated macrophages. *Life Sci.* **73(11)**, 1401-1412 (2003).

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