

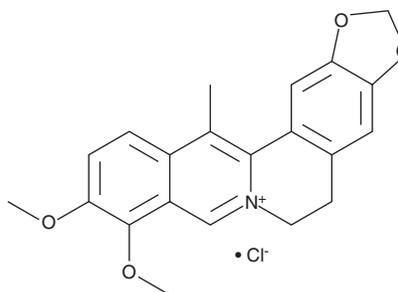
# PRODUCT INFORMATION



## 13-Methylberberine (chloride)

Item No. 21154

**CAS Registry No.:** 54260-72-9  
**Formal Name:** 5,6-dihydro-9,10-dimethoxy-13-methylbenzo[g]-1,3-benzodioxolo[5,6-a]quinolizinium, monochloride  
**Synonym:** 13-MB  
**MF:** C<sub>21</sub>H<sub>20</sub>NO<sub>4</sub> • Cl  
**FW:** 385.8  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 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 berberidacean alkaloid found in plant tissues that has antibacterial, anti-inflammatory, antitumor, anti-obesity, and hypercholesterolemic activity.<sup>1,2</sup> 13-MB has improved antibacterial activity against *S. aureus* (MIC = 125 µg/ml) and improved antitumor activity with a mean GI<sub>50</sub> value of 11.7 µM, as compared to berberine.<sup>3-5</sup> 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.<sup>1</sup>

### 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).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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