

# PRODUCT INFORMATION

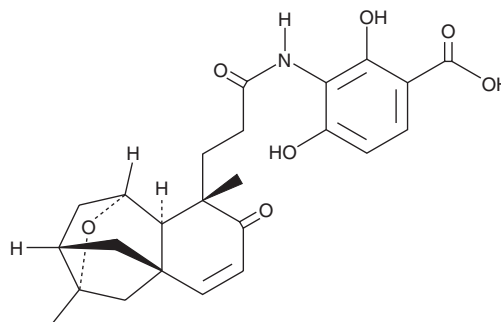


## Platensimycin

Item No. 15507

**CAS Registry No.:** 835876-32-9  
**Formal Name:** 3-[[3-[(1S,3S,4S,9S)-1,4,5,8,9,9aR-hexahydro-3,9-dimethyl-8-oxo-3H-1,4:3,5aS-dimethano-2-benzoxepin-9-yl]-1-oxopropyl]amino]-2,4-dihydroxy-benzoic acid

**Synonym:** PTM  
**MF:** C<sub>24</sub>H<sub>27</sub>NO<sub>7</sub>  
**FW:** 441.5  
**Purity:** ≥95%  
**Supplied as:** A 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

Platensimycin is supplied as a solid. A stock solution may be made by dissolving the platensimycin in the solvent of choice. Platensimycin is soluble in organic solvents such as methanol, ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas.

### Description

Platensimycin (PTM) is an antibiotic produced by *S. platensis* that inhibits Gram-positive bacteria by selectively inhibiting cellular lipid biosynthesis (IC<sub>50</sub> = 0.1 μM).<sup>1</sup> It targets the β-ketoacyl-acyl-carrier-protein synthase I/II, FabF/B, an enzyme that participates in the biosynthesis of fatty acids (IC<sub>50</sub>s = 48 and 160 nM for *S. aureus* and *E. coli* enzymes, respectively).<sup>1</sup> By specifically targeting fatty acid synthesis in bacteria, PTM is thought to be a promising agent for overcoming antibiotic resistance.<sup>2</sup> PTM is also a selective inhibitor of the mammalian fatty acid synthase and has been shown to reduce liver triglyceride levels and to improve insulin sensitivity in a diabetic mouse model after an oral dose of 30 mg/kg.<sup>3</sup>

### References

1. Wang, J., Soisson, S.M., Young, K., *et al.* Platensimycin is a selective FabF inhibitor with potent antibiotic properties. *Nature* **441(7091)**, 358-361 (2006).
2. Allahverdiyev, A.M., Bagirova, M., Abamor, E.S., *et al.* The use of platensimycin and platencin to fight antibiotic resistance. *Infect. Drug Resist.* **6**, 99-114 (2013).
3. Wu, M., Singh, S.B., Wang, J., *et al.* Antidiabetic and antisteatotic effects of the selective fatty acid synthase (FAS) inhibitor platensimycin in mouse models of diabetes. *Proc. Natl. Acad. Sci. U.S.A.* **108(13)**, 5378-5383 (2011).

#### 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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