

# PRODUCT INFORMATION

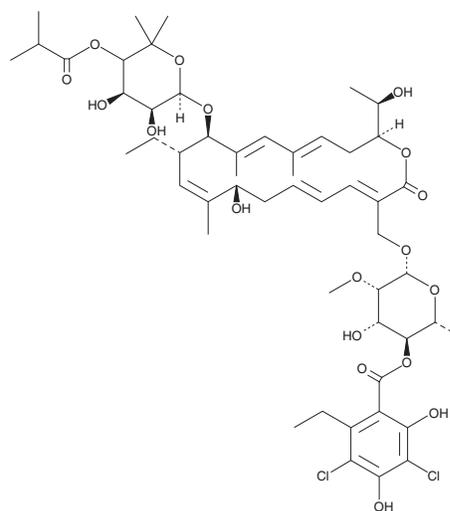


## Fidaxomycin Item No. 15503

**CAS Registry No.:** 873857-62-6  
**Formal Name:** (3E,5E,8S,9E,11S,12R,13E,15E,18S)-3-[[[6-deoxy-4-O-(3,5-dichloro-2-ethyl-4,6-dihydroxybenzoyl)-2-O-methyl-β-D-mannopyranosyl]oxy]methyl]-12-[[6-deoxy-5-C-methyl-4-O-(2-methyl-1-oxopropyl)-β-D-lyxo-hexopyranosyl]oxy]-11-ethyl-8-hydroxy-18-[(1R)-1-hydroxyethyl]-9,13,15-trimethyl-oxacyclooctadeca-3,5,9,13,15-pentaen-2-one

**Synonyms:** Clostomicin B<sub>1</sub>, Lipiarmycin, OPT-80, PAR-101, Tiacumicin B

**MF:** C<sub>52</sub>H<sub>74</sub>Cl<sub>2</sub>O<sub>18</sub>  
**FW:** 1,058.0  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 230, 268 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

Fidaxomycin is supplied as a crystalline solid. A stock solution may be made by dissolving the fidaxomycin in the solvent of choice, which should be purged with an inert gas. Fidaxomycin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of fidaxomycin in ethanol is approximately 5 mg/ml and approximately 2 mg/ml in DMSO and DMF.

Fidaxomycin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, fidaxomycin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Fidaxomycin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Fidaxomycin is a natural macrocyclic antibiotic that inhibits RNA polymerase with selectivity for Gram-positive bacteria over Gram-negative bacteria (IC<sub>50</sub>s = 0.4 and 6 μM, respectively).<sup>1</sup> It has potent antibacterial activity against most Gram-positive bacteria and effectively targets the Gram-positive *C. difficile* (MIC = 12 ng/ml).<sup>1</sup> Orally administered fidaxomycin exhibits minimal systemic bioavailability resulting in maximal gastrointestinal tract distribution.<sup>1</sup> Fidaxomycin is effective in clearing *C. difficile* infections while sparing Gram-negative bacteria in the gut.<sup>2,3</sup>

### References

1. Srivastava, A., Talaue, M., Liu, S., *et al.* New target for inhibition of bacterial RNA polymerase: "Switch region". *Curr. Opin. Microbiol.* **14**(5), 532-543 (2011).
2. Louie, T.J., Emery, J., Krulicki, W., *et al.* OPT-80 eliminates *Clostridium difficile* and is sparing of *Bacteroides* species during treatment of *C. difficile* infection. *Antimicrob. Agents Chemother.* **53**(1), 261-263 (2009).
3. Louie, T.J., Miller, M.A., Mullane, K.M., *et al.* Fidaxomicin versus vancomycin for *Clostridium difficile* infection. *N. Engl. J. Med.* **364**(5), 422-431 (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.

**WARRANTY AND LIMITATION OF REMEDY**  
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### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM