PRODUCT INFORMATION



Fusidic Acid-d₄

Item No. 29994

Formal Name:	(Z)-2-((3R,4S,5S,8S,9S,10S,11R,13R, 14S,16S)-16-acetoxy-3,11-dihydroxy- 4,8,10,14-tetramethylhexadecahydro-17H- cyclopenta[a]phenanthren-17-ylidene)-6- (methyl-d ₃)hept-5-enoic-7,7,7-d ₃ acid	
MF:	$C_{31}H_{42}D_6O_6$	
FW:	522.8	
Chemical Purity:	≥98% (Fusidic Acid)	
Deuterium		0
Incorporation:	≥99% deuterated forms (d₁-d₅); ≤1% d₀	но
Supplied as:	A solid	H H
Storage:	-20°C	1
Stability:	≥4 years	
Item Origin:	Synthetic	

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

Laboratory Procedures

Fusidic acid-d₆ is intended for use as an internal standard for the quantification of fusidic acid (Item No. 14825) 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).

Fusidic acid-d₆ is supplied as a solid. A stock solution may be made by dissolving the fusidic acid-d₆ in the solvent of choice, which should be purged with an inert gas. Fusidic acid-d₆ is soluble in methanol and sparingly soluble in chloroform.

Description

Fusidic acid is a fusidane antibiotic originally isolated from F. coccineum.¹ It is active against the Gram-positive bacteria S. aureus, S. pyogenes, C. diphtheriae, B. subtilis, and C. tetani (MIC₅₀s = 0.01-20 µg/ml) but not the Gram-negative bacteria E. coli, S. typhimurium, and P. vulgaris or the fungi *C. albicans* and *A. fumigatus* (MIC₅₀s = >100 μ g/ml for all).² Fusidic acid inhibits ribosomal recycling and protein translocation, processes mediated by elongation factor G (EF-G), in isolated *E. coli* ribosomes $(IC_{50}s = ~0.1 \text{ and } ~200 \ \mu\text{M}$, respectively).³ Topical administration of fusidic acid (2%) reduces the number of skin colony forming units (CFUs) and levels of TNF- α and IL-6 in a mouse model of methicillin-resistant S. aureus (MRSA) skin wound infection.⁴

References

- 1. Verbist, L. The antimicrobial activity of fusidic acid. J. Antimicrob. Chemother. 25(Suppl. B), 1-5 (1990).
- 2. Godtfredsen, W.O., Jahnsen, S., Lorck, H., et al. Fusidic acid: A new antibiotic. Nature 193, 987 (1962).
- Savelsbergh, A., Rodnina, M.V., and Wintermeyer, W. Distinct functions of elongation factor G in 3. ribosome recycling and translocation. RNA 15(5), 772-780 (2009).
- Mohamed, M.F. and Seleem, M.N. Efficacy of short novel antimicrobial and anti-inflammatory peptides in 4. a mouse model of methicillin-resistant Staphylococcus aureus (MRSA) skin infection. Drug Des. Devel. Ther. 8, 1979-1983 (2014).

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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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