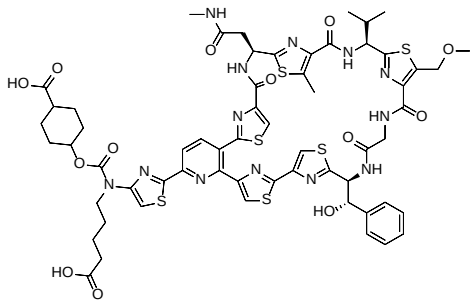
Product data sheet

MedKoo Cat#: 529120 Name: LFF 571 CAS: 1160959-55-6 Chemical Formula: $C_{60}H_{63}N_{13}O_{13}S_6$ Exact Mass: 1365.2993 Molecular Weight: 1366.602	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
LFF 571 is a protein-synthesizing GTPase (Elongation Factor) inhibitor potentially for the treatment of clostridial infection.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	0.73 mL	3.66 mL	7.32 mL
5 mM	0.15 mL	0.73 mL	1.46 mL
10 mM	0.07 mL	0.37 mL	0.73 mL
50 mM	0.02 mL	0.07 mL	0.15 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Sachdeva M, Leeds JA. Subinhibitory concentrations of LFF571 reduce toxin production by Clostridium difficile. Antimicrob Agents Chemother. 2015 Feb;59(2):1252-7. doi: 10.1128/AAC.04436-14. Epub 2014 Dec 15. PMID: 25512411; PMCID: PMC4335859.

2. Leeds JA, Sachdeva M, Mullin S, Barnes SW, Ruzin A. In vitro selection, via serial passage, of Clostridium difficile mutants with reduced susceptibility to fidaxomicin or vancomycin. J Antimicrob Chemother. 2014 Jan;69(1):41-4. doi: 10.1093/jac/dkt302. Epub 2013 Jul 25. PMID: 23887866.

In vivo study

1. Trzasko A, Leeds JA, Praestgaard J, Lamarche MJ, McKenney D. Efficacy of LFF571 in a hamster model of Clostridium difficile infection. Antimicrob Agents Chemother. 2012 Aug;56(8):4459-62. doi: 10.1128/AAC.06355-11. Epub 2012 May 29. PMID: 22644020; PMCID: PMC3421564.

7. Bioactivity
Biological target:

LFF-571 is an orally active semisynthetic thiopeptide antibiotic.

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In vitro activity

LFF571 inhibits bacterial protein synthesis by interacting with elongation factor Tu (EF-Tu) and interrupting complex formation between EF-Tu and aminoacyl-tRNA. LFF571 led to strain-dependent effects on toxin production, including decreased toxin levels after treatment with subinhibitory concentrations, and more rapid declines in toxin production than in inhibition of colony formation.

Reference: Antimicrob Agents Chemother. 2015 Feb;59(2):1252-7. https://pubmed.ncbi.nlm.nih.gov/25512411/

In vivo activity

In vivo efficacy of LFF571 was compared to vancomycin in a hamster model of C. difficile infection (CDI). Further analysis of the pooled data indicated that the survival benefit of LFF571 treatment at 5 mg/kg compared to vancomycin at 20 mg/kg was due primarily to a decrease in the risk of recurrence after end of treatment. Overall, LFF571 was more efficacious at the end of the study, at a lower dose, and with fewer recurrences, than vancomycin in the hamster model of CDI.

Reference: Antimicrob Agents Chemother. 2012 Aug;56(8):4459-62. https://pubmed.ncbi.nlm.nih.gov/22644020/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.