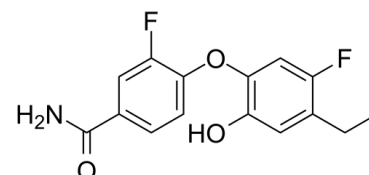


Data Sheet

Product Name:	MUT056399
Cat. No.:	CS-5339
CAS No.:	1269055-85-7
Molecular Formula:	C ₁₅ H ₁₃ F ₂ NO ₃
Molecular Weight:	293.27
Target:	Bacterial
Pathway:	Anti-infection
Solubility:	DMSO : ≥ 31 mg/mL (105.70 mM)



BIOLOGICAL ACTIVITY:

MUT056399 (Fab-001) is a highly potent inhibitor of the **FabI enzyme** of both *S. aureus* and *E. coli* with 50% inhibitory concentration **IC₅₀s** of 12 nM and 58 nM, respectively. **IC₅₀ & Target:** IC₅₀ value: 12 nM (for *S. aureus*), 58 nM (for *E. coli*)^[1] **In Vitro:** MUT056399 (Fab-001) is a highly potent new inhibitor of the FabI enzyme of both *Staphylococcus aureus* and *Escherichia coli*. MUT056399 is very active against *S. aureus* strains, including methicillin-susceptible *S. aureus* (MSSA), methicillin-resistant *S. aureus* (MRSA), linezolid-resistant, and multidrug-resistant strains, with MIC₉₀s between 0.03 and 0.12 µg/ml. MUT056399 is also active against coagulase-negative staphylococci, with MIC₉₀s between 0.12 and 4 µg/ml. MUT056399 is very active against the 118 *S. aureus* strains tested, including MSSA and MRSA isolates and linezolid-resistant and multidrug-resistant strains, with MIC₉₀s between ≤0.03 and 0.12 µg/ml. **In Vivo:** MUT056399 (Fab-001), administered subcutaneously, protected mice from a lethal systemic infection induced by MSSA, MRSA, and vancomycin-intermediate *S. aureus* strains (50% effective doses ranging from 19.3 mg/kg/day to 49.6 mg/kg/day). In the nonneutropenic murine thigh infection model, the same treatment with MUT056399 reduced the bacterial multiplication of MSSA and MRSA in the thighs of immunocompetent mice.

References:

[1]. Escaich S, et al. The MUT056399 inhibitor of FabI is a new antistaphylococcal compound. *Antimicrob Agents Chemother.* 2011 Oct;55(10):4692-7.

[2]. Schiebel J, et al. An ordered water channel in *Staphylococcus aureus* FabI: unraveling the mechanism of substrate recognition and reduction. *Biochemistry.* 2015 Mar 17;54(10):1943-55.

CAIndexNames:

Benzamide, 4-(4-ethyl-5-fluoro-2-hydroxyphenoxy)-3-fluoro-

SMILES:

CCC1=CC(O)=C(OC2=CC=C(C(N)=O)C=C2F)C=C1F

Caution: Product has not been fully validated for medical applications. For research use only.

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