

Product data sheet



MedKoo Cat#: 525207 Name: INF55 CAS: 4993-87-7 Chemical Formula: C ₁₄ H ₁₀ N ₂ O ₂ Exact Mass: 238.0742 Molecular Weight: 238.246	
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:

INF55 is a NorA efflux pump inhibitor.

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	4.20 mL	20.99 mL	41.97 mL
5 mM	0.84 mL	4.20 mL	8.39 mL
10 mM	0.42 mL	2.10 mL	4.20 mL
50 mM	0.08 mL	0.42 mL	0.84 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. Dolla NK, Chen C, Larkins-Ford J, Rajamuthiah R, Jagadeesan S, Conery AL, Ausubel FM, Mylonakis E, Bremner JB, Lewis K, Kelso MJ. On the Mechanism of Berberine-INF55 (5-Nitro-2-phenylindole) Hybrid Antibacterials. *Aust J Chem.* 2015;67:1471-1480. doi: 10.1071/CH14426. PMID: 26806960; PMCID: PMC4720975.

2. Bremner JB, Kelso MJ. Synthesis of Berberine-Efflux Pump Inhibitor Hybrid Antibacterials. *Synth Commun.* 2010 Jan 1;40(23):3561-3568. doi: 10.1080/00397910903457415. PMID: 21311737; PMCID: PMC3035389.

In vivo study

1. Rineh A, Bremner JB, Hamblin MR, Ball AR, Tegos GP, Kelso MJ. Attaching NorA efflux pump inhibitors to methylene blue enhances antimicrobial photodynamic inactivation of *Escherichia coli* and *Acinetobacter baumannii* in vitro and in vivo. *Bioorg Med Chem Lett.* 2018 Sep 1;28(16):2736-2740. doi: 10.1016/j.bmcl.2018.02.041. Epub 2018 Feb 24. PMID: 29519734; PMCID: PMC6108959.

7. Bioactivity

Biological target:

INF55 is a NorA efflux pump inhibitor.

In vitro activity

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This study hypothesised that if the proposed mechanism is correct, then hybrids carrying more potent INF55 pump inhibitor structures should show enhanced antibacterial effects relative to those bearing weaker inhibitors. Two INF55 analogues showing graded reductions in NorA inhibitory activity compared with INF55 were identified and their corresponding berberine-INF55 hybrids carrying equivalent INF55 inhibitor structures synthesised. Multiple assays comparing the antibacterial effects of the hybrids and their corresponding berberine-INF55 analogue combinations showed that the three hybrids all show very similar activities, leading this study to conclude that the antibacterial mechanism(s) of berberine-INF55 hybrids is different from berberine-INF55 combinations.

Reference: Aust J Chem. 2015;67:1471-1480. <https://pubmed.ncbi.nlm.nih.gov/26806960/>

In vivo activity

In conclusion, this study demonstrates that attaching NorA EPIs to MB can increase aPDI effectiveness against the Gram-negative pathogens *E. coli* and *A. baumannii* *in vitro* and *in vivo*.

Reference: Bioorg Med Chem Lett. 2018 Sep 1;28(16):2736-2740. <https://pubmed.ncbi.nlm.nih.gov/29519734/>

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.