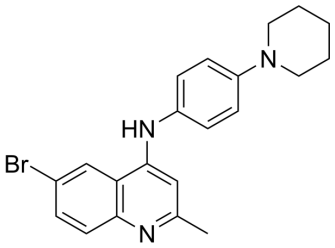
MtInhA-IN-1

Cat. No.:	HY-151941
Molecular Formula:	$C_{21}H_{22}BrN_3$
Molecular Weight:	396.32
Target:	Bacterial
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	MtInhA-IN-1 is a selective and orally active ***Mycobacterium tuberculosis*** NADH-dependent enoyl-acyl carrier protein reductase (MtInhA) inhibitor with an IC_{50} of 0.23 μM. MtInhA-IN-1 potently against M. tuberculosis H37Rv strain with a MIC value of 0.4 μM[1].
IC_{50} & Target	IC50: 0.23 μM (Mycobacterium tuberculosis NADH-dependent enoyl-acyl carrier protein reductase (MtInhA))[1] MIC: 0.4 μM (M. tuberculosis H37Rv strain), 0.1 μM (M. tuberculosis strains PT2), 0.2 μM (M. tuberculosis strains PT12), and 0.1 μM (M. tuberculosis strains PT20)[1]
In Vitro	MtInhA-IN-1 (compound 19k) shows inhibitory activity against a panel of multidrug-resistant M. tuberculosis strains, M. tuberculosis strains PT2, PT12, and PT20. The MIC values of 0.1 μM, 0.2 μM, and 0.1 μM for PT2, PT12, and PT20, respectively. In addition, MtInhA-IN-1 has low cytotoxicity against HepG2 and Vero cells[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	MtInhA-IN-1 (compound 19k; 300-450 μM/kg; p.o; daily; for 14 days) shows bacteriostatic effect in a murine model of tuberculosis[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	M. tuberculosis-infected mice [1]
Dosage:	300 μM/kg and 450 μM/kg
Administration:	Oral administration; daily; for 14 days
Result:	Reduced the growth of bacilli in the lungs of mice.

REFERENCES

[1]. Josiane Delgado Paz, et al. Novel 4-aminoquinolines: Synthesis, inhibition of the Mycobacterium tuberculosis enoyl-acyl carrier protein reductase, antitubercular activity, SAR, and preclinical evaluation. Eur J Med Chem. 2023 Jan 5;245(Pt 1):114908.

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

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