

# NITD-349

**Catalog No: tcsc0032639**



## Available Sizes

---

**Size:** 5mg

**Size:** 10mg

**Size:** 50mg

**Size:** 100mg



## Specifications

---

**CAS No:**

1473450-62-2

**Formula:**

$C_{17}H_{20}F_2N_2O$

**Pathway:**

Anti-infection

**Target:**

Bacterial

**Purity / Grade:**

>98%

**Solubility:**

DMSO :  $\geq 310$  mg/mL (1011.91 mM)

**Observed Molecular Weight:**

306.35

## Product Description

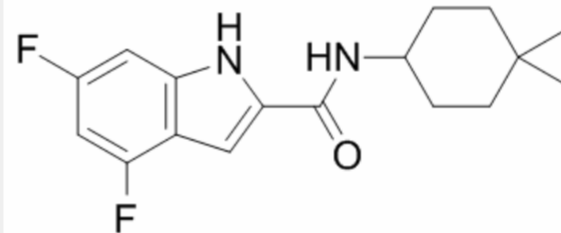
NITD-349 is an **MmpL3** inhibitor that shows highly potent anti-mycobacterial activity with **MIC<sub>50</sub>** of 23 nM against virulent *Mycobacterium tuberculosis*

H37Rv.

IC50 & Target: MIC50: 23 nM (*Mycobacterium tuberculosis* H37Rv)<sup>[1]</sup>

**In Vitro:** NITD-349 shows bactericidal activity against *in vitro* replicating *Mycobacterium tuberculosis* (Mtb) and also are active against intramacrophage Mtb. Kill kinetic analysis of these compounds showed both concentration- and time-dependent killing of Mtb cells with 3- to 4-log colony-forming unit (CFU) reduction within 3 days of treatment. The cidal activity profile of NITD-304 is similar to that of isoniazid for which rapid killing is noticed at concentrations greater than 0.2  $\mu$ M. The MIC activity of NITD349 against various MDR Mtb strains ranges from 0.04 to 0.08  $\mu$ M. NITD-349 shows high permeability and moderate *in vitro* metabolic clearance in mouse and human hepatic microsomes<sup>[1]</sup>.

**In Vivo:** In the acute murine efficacy model NITD-349 shows favorable oral pharmacokinetic (PK) properties in rodents and dogs and are efficacious in mouse models of both acute and chronic *Mycobacterium tuberculosis* infection. In the acute murine efficacy model, treatment of mice with NITD-349 at doses of 12.5 and 50 mg/kg resulted in 0.9- and 3.4-log CFU reduction in lung tissue. In an established infection mouse model, after 2 weeks of treatment, the efficacy of NITD-349 is comparable to the first-line TB drug rifampicin and is better than ethambutol. Four weeks of treatment at 100 mg/kg with NITD-349 results in 2.38-log CFU reductions<sup>[1]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!