Data Sheet (Cat.No.T212088)

TargetMol

JNJ-6640

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	JNJ-6640 is an inhibitor targeting Mycobacterium PurF, the first enzyme in the de novo purine biosynthesis pathway, with potent antitubercular activity. It exhibits bactericidal properties against Mycobacterium tuberculosis in vitro, with a MIC90 of 8.6 nM. By disrupting de novo purine biosynthesis, JNJ-6640 inhibits Mycobacterium tuberculosis DNA replication in vivo. Demonstrating antitubercular efficacy in acutely infected mice, JNJ-6640 is applicable for tuberculosis research.
Targets(IC50)	Antibacterial
In vitro	JNJ-6640 demonstrates significant inhibitory and bactericidal effects against Mycobacterium tuberculosis H37Rv strain in vitro, with a minimum inhibitory concentration (MIC90) of 8.6 nM and a minimum bactericidal concentration (MBC99.9) of 140 nM; in cholesterol media, the MIC90 is 29.1 nM. For M. tuberculosis within THP-1 macrophages, its IC50 is 26.1 nM. A concentration of JNJ-6640 (100 nM) applied for 4 hours significantly reduces the incorporation of 15N into adenine and adenosine monophosphate (AMP) in M. tuberculosis. Additionally, JNJ-6640 at 1 nM inhibits M. tuberculosis PurF enzyme, and at 0.6 μM over a period of 6-10 hours, it hinders the growth of M. tuberculosis expressing TdTomato.
In vivo	JNJ-6640 (1500 mg/kg, subcutaneous long-acting formulation, administered weekly for 2-8 weeks) demonstrated antitubercular efficacy in female Balb/cBy mice with acute infection.

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