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DEPARTMENT OF
SCIENCE & TECHNOLOGY
सत्यमेव जयते

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PENDING

(IN202311005039) An inhibitory compound against lumazine synthase and a method of preparing the same

Bacteria	Classification	Formula I Compound X=H	Formula I Compound X=Cl	Formula I Compound $X=CH_3$
Enterococcus faecium	Gram +ve	6.25 µg/ ml	3.125 µg/ ml	3.125-6.25 µg/ ml
Streptococcus pneumoniae	Gram +ve	1.56 µg/ ml	1.56 µg/ ml	1.56 µg/ ml
Enterobacter sp.	Gram -ve	50 µg/ ml	12.5-25 µg/ ml	50 µg/ ml

NEED

Drug-resistant tuberculosis (TB) remains a global health threat. Current treatments struggle against resistant strains, requiring new, more effective compounds.

MARKET ANALYSIS

The global tuberculosis drugs market is projected to grow at a CAGR of 4.5%, reaching $16.5 billion by 2033. Key growth drivers include rising TB cases, increased focus on antimicrobial resistance, and advancements in drug formulations.

TECHNOLOGY OVERVIEW

This patent introduces an inhibitory compound targeting lumazine synthase, a key enzyme in Mycobacterium tuberculosis. When combined with rifampicin or isoniazid, it enhances the antibacterial activity against drug-resistant TB, offering a promising therapeutic solution.

Target Industries

Biotechnology, Pharmaceuticals, Healthcare. , Pharmaceutical manufacturers, biotechnology firms, healthcare providers, and research organizations focused on developing treatments for drug-resistant tuberculosis and other infectious diseases.

TECHNOLOGY KEY FEATURES

A novel lumazine synthase inhibitor with enhanced efficacy against Mycobacterium tuberculosis when combined with rifampicin or isoniazid, reducing the minimum inhibitory concentration (MIC) for both compounds, showing potential for combating drug-resistant TB.

AT A GLANCE

- SDG 3 (Good Health and Well-being), SDG 9 (Industry, Innovation, and Infrastructure)

Read more here

Technology is available for licensing/ co-development.

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