Discovery of Novel Pharmacophores Inhibiting the Growth of Mycobacterium tuberculosis

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Technology description

Summary

Tuberculosis (TB) caused by Mycobacterium tuberculosis infects roughly one third of the world population and approximately 8 million people develop TB annually. The emergence of multi-drug resistant (MDR) and extensively drug-resistant (XDR) TB strains highlight the need for new drugs against TB. The inventions described herein are small molecules with drug-like properties that inhibit the growth of Mycobacterium tuberculosis . The compounds were discovered utilizing high-throughput screening of a 101,000 compound library. Three hundred active compounds inhibit Mycobacterium tuberculosis growth by 90% or greater in in vitro assays with MIC values ranging from 1.6 to less than 0.1 micrograms/ml, and showing minimal toxicity in tissue culture cells. Structure similarity analyses of the compounds reveal 44 chemical clusters representing 250 active compounds.

Market:
TB therapeutics

Application area

Treatment of TB infections

Advantages

Novel drug candidates against TB

Institution

NIH - National Institutes of Health

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