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DEPARTMENT OF
SCIENCE & TECHNOLOGY
सत्यमेव जयते

BITS Pilani
TECHNOLOGY
ENABLING
CENTRE
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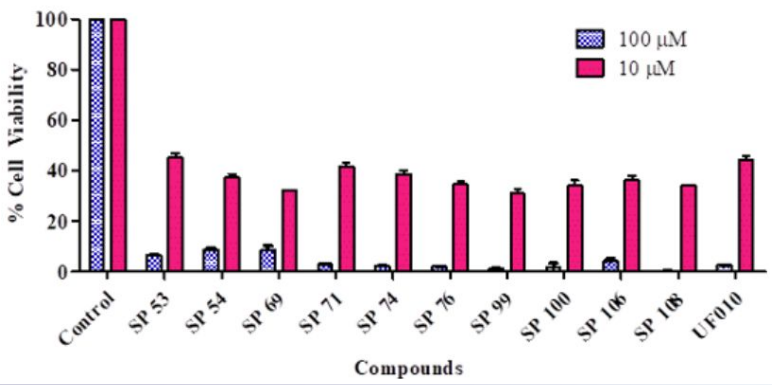
GRANTED

(IN450418) Hydrazide based HDAC3 selective inhibitors



NEED

Over 40% of anti-cancer and antimicrobial drug candidates show poor selectivity and high toxicity, leading to $1.2 billion in development losses each year. Unoptimized molecular structures cause off-target effects, safety risks, and long clinical delays.

MARKET ANALYSIS

The global pharmaceutical API market is expected to grow at a CAGR of 6.2%, reaching $355.5 billion by 2033, driven by rising chronic disease cases and personalized medicine trends. [Source: Precedence Research, 2024]

TECHNOLOGY OVERVIEW

This patent introduces a novel class of hydrazine-carbonyl derivatives designed for pharmaceutical applications. The structures are engineered for better target binding, improved metabolic stability, and enhanced therapeutic efficiency, making them ideal for treating chronic diseases while minimizing systemic toxicity.

Target Industries

API Manufacturing, Biotech Research and Innovation, Precision Medicine. , API synthesis firms, biotech labs specializing in small molecule drugs, enterprises focused on customized therapeutics and early-stage clinical innovations.

TECHNOLOGY KEY FEATURES

Enhanced molecular stability, selective functional groups for strong target affinity, reduced off-target toxicity, ease of formulation with carriers, tunable chemical properties, high bioavailability, support for diverse therapeutic areas, and potential for reduced side effects.

AT A GLANCE

- SDG 3 (Good Health and Well-being), SDG 9 (Industry, Innovation and Infrastructure), SDG 17 (Partnerships for the Goals)

Read more here

Technology is available for licensing/ co-development.

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