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DEPARTMENT OF
SCIENCE & TECHNOLOGY
सत्यमेव जयते

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TECHNOLOGY
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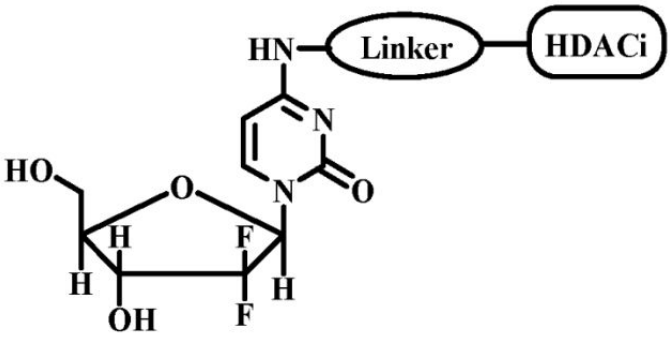
PENDING

(IN202311055618) Bifunctional conjugate molecules for cancer treatment and process of making the same



NEED

Despite $200 billion in annual global cancer therapy spending, over 60% of patients experience relapse due to drug resistance and incomplete tumor targeting. Existing treatments fail to engage both epigenetic and cytotoxic pathways effectively, risking treatment failure.

MARKET ANALYSIS

The global cancer therapeutics market is projected to grow at a CAGR of 7.2%, reaching $393.6 billion by 2033, driven by advanced drug innovations and rising cancer prevalence. [Source: Precedence Research, 2024]

TECHNOLOGY OVERVIEW

This invention introduces a bifunctional molecule combining a histone deacetylase inhibitor with Gemcitabine via a specialized linker. It promises improved cancer cell eradication by simultaneously modulating gene expression and inducing DNA damage, enhancing therapeutic outcomes with lower systemic toxicity.

Target Industries

Oncology Drug Development, Personalized Medicine Platforms, Advanced Pharmaceutical Formulation. , Specialty drug innovators, biotech firms focusing on multi-target therapies, enterprises developing precision oncology treatments for niche cancer types.

TECHNOLOGY KEY FEATURES

Dual action mechanism, optimized linker for stability, selective HDAC inhibition, potent chemotherapeutic synergy, broad applicability across 20+ cancer types, enhanced tumor targeting, reduced toxicity risk, high manufacturing versatility, suitability for amorphous/crystalline forms.

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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