

Children's Cancer Therapy Development Institute highlights potential of entinostat as a combinatorial therapy for cancer

Children's Cancer Therapy Development Institute highlights potential of entinostat as a combinatorial therapy for rhabdomyosarcoma

HILLSBORO, OR, UNITED STATES, August 17, 2024 /EINPresswire.com/ -- In a groundbreaking



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Dr. Charles Keller

study published today in Scientific Reports, researchers with the [Children's Cancer Therapy Development Institute](#) (cc-TDI) have unveiled promising preclinical data supporting the use of [entinostat as a combinatorial therapeutic for rhabdomyosarcoma](#) (RMS), the most common childhood soft tissue sarcoma. The study focuses on the alveolar subtype (ARMS), particularly those with the PAX3::FOXO1 fusion gene, which are known for their poor prognosis and resistance to conventional therapies.

Despite initial responsiveness to chemotherapy, metastatic PAX3::FOXO1+ ARMS often relapses, with most patients not

surviving beyond eight years post-diagnosis. This reality, and the lack of curative intent phase II or III clinical trials over the past decade, highlights the critical need for innovative treatment strategies for this aggressive cancer.

In their study, cc-TDI researchers investigated the therapeutic efficacy of combining entinostat, a Class I Histone Deacetylase (HDAC1-3) inhibitor, with RMS-specific chemotherapies in patient-derived xenograft (PDX) models. The results demonstrated additive or synergistic effects between relapse-specific chemotherapies and clinically relevant doses of entinostat in three PAX3::FOXO1+ ARMS mouse models. This preclinical data supports further clinical investigation of entinostat, which has already shown good tolerance in a pediatric phase I clinical trial (ADV1513). This study marks a significant step forward in the fight against metastatic ARMS, offering hope for improved outcomes for children affected by this challenging cancer.

"This multidisciplinary collaboration of preclinical experts, pharmacologists, biologists and funders like the [Megan's Mission Foundation](#), shows the benefit of public-private teamwork," explains Dr. Charles Keller.

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