



Scientific Abstract

St. Baldrick's Foundation–SU2C Pediatric Cancer Dream Team:

“Immunogenomics to Create New Therapies for High-Risk Childhood Cancers”



[This abstract was provided by the scientists when their application was accepted.]

Despite progress, many children currently diagnosed with cancer have a lower than 50 percent chance of survival, with survival rates plateauing over the last decade. In addition, standard therapies are exceedingly toxic, leaving childhood cancer survivors with life threatening morbidities. Although our understanding of the biology of childhood cancer has advanced substantially in the last two decades, new precision therapies have as yet neither significantly improved childhood cancer outcomes nor allowed for the development of less toxic therapies.

The St. Baldrick's Foundation-SU2C Pediatric Cancer Dream Team (PCDT) builds upon the work done by the previous Pediatric Cancer Dream Team, bringing together pediatric genomics and immunotherapy experts. This Team is continuing to build upon an established collaborative and multidisciplinary program focused on developing scientifically rigorous immunotherapeutic approaches for the most refractory childhood cancers.

The Dream Team is investigating a hypothesis that pediatric cancer cells express surface molecules not present on normal tissue that can be targeted by synthetic immunotherapeutics. Their multi-institutional objective is to develop and conduct paradigm changing early phase clinical trials of immunotherapies directed towards targets identified by the previous Pediatric Cancer Dream Team.

This Dream Team aims to:

- 1) Refine and validate prioritized pediatric cancer immunotherapy targets across high-risk cancers
- 2) Conduct Investigational New Drug (IND)-enabling studies to support the development of clinical trials for pediatric cancers with few therapeutic options
- 3) Conduct pivotal single and multi-institutional pediatric cancer immunotherapy trials in refractory solid malignancies that will seek to recapitulate the response rates the previous Pediatric Cancer Dream Team demonstrated in relapsed Acute Lymphoblastic Leukemia (ALL) and conduct deep correlative studies to identify biomarkers of response to and enhance understanding of the basis for success or failure of these novel agents.





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Recent studies by this group have focused on 19 prioritized immunotherapeutic targets, and they have developed multiple industry partnerships in order to move many of these towards novel immunotherapeutic trials.

