

BALL RELAPSE: Deciphering relapse in B-cell acute lymphoblastic leukemia

Description

B-cell acute lymphoblastic leukemia is one of the most common cancers. Fifty-percent of all adult patients relapse, and of those who do, 90% of them perish. Thus, there is an urgent need to identify the patients that will relapse and to develop better treatments for them. In this project, we will use the most recent methodological breakthroughs to study both cancer cells and surrounding healthy cells to better understand relapse. These will allow us to compare relapsed versus non-relapsed patients and discover new biomarkers to predict relapse. We will also characterize the alterations (e.g., mutations) at regulatory elements that drive B-cell acute lymphoblastic leukemia development and relapse for the first time, which will help us discover new therapeutic targets and biomarkers.

In summary, we will provide novel understanding into how cancer cells survive treatment and this will enable us to design prognostic and therapeutic strategies needed for this subset of patients with dismal outcomes. Leukemia; Neoplasms, Second Primary; Lymphoid Progenitor Cells; Genotype; Gene Expression; Gene Expression Regulation,Developmental; Gene Expression Regulation, Neoplastic; DNA Methylation

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