

Applicant

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Project Title

Genomic and Environmental Determinants of Age-Related Clonal Hematopoiesis

Project Summary

Early cancer detection is critical to improving health outcomes and cancer survival. Our team has led major discoveries and programs that have generated technologies and resources that can be adapted to improving early cancer genomic studies and biomarker development. Recent studies have linked age-related mutation accumulation in blood to both diseases. While common, among some individuals, mutation accumulation is associated with to pre-leukemia or cardiometabolic conditions. There is a clear need to understand the biology and develop biomarkers and tools that distinguish benign accumulation from cancer and/or cardiovascular morbidities. Our goal is to evaluate large population cohorts with advanced genetic analyses to identify risk factors and mechanisms of progression to disease, develop genomic tools, and implement analytical methods for prediction of risk for progression to disease in the clinical setting.

Keywords

Age-Related Clonal Hematopoeisis, Early Detection, Evolution, Somatic Mutations