

Research

Project Description

It is estimated that approximately 5-10% of all cancer is hereditary in nature. There are several known hereditary cancer predisposition syndromes, including hereditary breast-ovarian cancer, hereditary non-polyposis colorectal cancer, and familial adenomatous polyposis. Many of the genes responsible for these syndromes have been identified within the last fifteen years. Similarly, there is a great interest in evaluating genetic predisposition to therapeutic responses and outcomes. The project titled "Hereditary cancer predisposition" is interested in:

- 1) Identifying and characterizing molecular defects associated with heritable cancers and the corresponding therapeutic responses.
- 2) Characterizing signaling pathways and mechanisms of action of these cancers and therapeutics.

This work may have broad implications for examining the pathogenesis of common cancers as well as the genetics of therapeutic outcomes, and has the potential to reveal novel targets and novel compartments germane for diagnosis, prognosis, therapy and prevention.