Title: Molecular Ontogeny of Human Antibody Repertoires

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Principal Investigator: Alexander Lucas, PhD

Synopsis:

This study aims to understand at the molecular level how protective immune responses to encapsulated bacterial pathogens are generated in infants by vaccination with polysaccharide-protein conjugate vaccines. B lymphocytes will be isolated from blood samples of infants during the course of their vaccination series at 2, 4 and 6 months of age. Monoclonal antibody Fab fragments, prepared from the B lymphocytes, will be sequenced and analyzed for functional activity. These studies will identify the genes used by infants in forming anti-capsular antibody responses and analyze the role of somatic hypermutation in generating protective immunity