

Research Interests

Erle S. Robertson Ph.D.

Dr. Robertson laboratory investigates the role of essential viral antigens mediating persistence and tumorigenesis by EBV and KSHV. His group studies the mechanisms utilized by these gammaherpesviruses to induce cell mediated growth transformation. They use genetics, genomics and biochemical approaches to elucidate strategies usurping these cellular events and develop models that explain how gammaherpesviruses establish transformation in human cells. His laboratory is currently investigating the essential EBV nuclear antigen EBNA3C and its role in mediating human cancers and its other related functions through its interactions with other cellular molecules involved in cell division, metastasis, apoptosis, cell cycle regulation and regulation of protein degradation. His laboratory also studies KSHV, associated with Kaposi's sarcoma (KS) and pleural effusion lymphomas (PELs). KSHV infects human B-cells and endothelial cells. His laboratory also investigates the mechanisms by which KSHV persists and establishes persistent infection in the associated human cancers and has ongoing translational work for identifying drugs that are critical for inhibition of the oncogenic process induced by these viruses.

Interactions with other trainers: Dr. Robertson is currently collaborating with Dr. You and Weiner on determining the expression of MHC class I and II molecules in nasopharyngeal carcinomas (NPCs) and HNSCCs and the expression of viral antigens in carcinomas infected with HPV, EBV and KSHV. He also collaborates with Drs. Lieberman and Yuan to identify determinants regulating KSHV lytic reactivation, through a program project on the role of the KSHV gammaherpesvirus in cancers. This study provides the scientific framework for interactions between γ -herpesviruses and human cancers.