

## Research Interests

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### ***Paul Lieberman Ph.D.***

Dr. Lieberman's laboratory is interested in gammaherpesviruses and persistence of these viruses in control of DNA replication and plasmid maintenance. Epstein-Barr virus (EBV) establishes a latent infection that is associated with several human malignancies, including Burkitt's lymphoma, nasopharyngeal carcinoma, Hodgkin's disease, and post-transplant lymphoproliferative disorder. Plasmid replication initiates at OriP and requires the viral encoded origin binding protein EBNA1. They found that OriP DNA replication and plasmid maintenance is regulated by interactions with telomere-associated proteins. Telomere repeat binding factors 1 and 2, hRAP1, telomere associated poly-ADP ribose polymerase (Tankyrase) and PARP1 were isolated as OriP binding proteins. These studies indicate that a cellular telomeric complex regulates OriP and that viral episomal stability is mechanistically linked to cellular genome stability.

*Interactions with other trainers:* Dr. Lieberman is a member of the program and has collaborations with Dr. Yuan investigating the regulation of KSHV lytic replication. His group presents regularly at the tumor virology group meeting and has jointly published with Dr. Yuan. He also collaborates with Dr. Yuan, Robertson, Weiner and Weitzman.