

Research Interests

Serge Fuchs M.D., Ph.D.

Dr. Fuchs laboratory studies the aberrations of cytokine receptors turnover through ubiquitination and degradation in cancer and inflammation. His focus is on intercellular mediators of signaling and how the signaling activities triggered by these changes can lead to downstream transcriptional changes. He is focused on the interferon alpha receptor (IFNAR) and its role in anti-tumor, anti-viral and immune modulatory activities as a result of interferon (IFN). His work on HCV as a chronic viral infection and major contributor to liver cirrhosis and hepatocellular carcinomas demonstrates a unique role for HCV encoded antigens in regulating the degradation of IFNAR and so IFN signaling. He has identified the E3 ligase and is working to understand the detailed molecular mechanism for these activities. These are important studies and for the first time gives some insights into the immune modulatory responses at the molecular level for HCV infection and its contribution to liver cancer.

Interactions with other trainers: Dr. Fuchs is one of our main senior investigators in the program who plays an active role in training and supporting the trainees during our meetings as well as our junior faculty. He has ongoing interactions with Dr. Chang, Weitzman, Shaw and Witze.