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Anti-HIV Therapy in the Simian AIDS Model

My research on AIDS has been directed at using nonhuman primate models to study mechanisms of pathogenesis of simian immunodeficiency virus (SIV) and chimeric simian-human immunodeficiency virus (SHIV). This includes molecular virology analysis of SIV/SHIV clones in rhesus monkeys, and more recently, use of the simian AIDS model for testing and developing antiretroviral therapies and testing new treatment regimens to eliminate latent virus. I have also participated in projects using the monkey models for evaluating vaccines for HIV/AIDS. Much of my research has involved close interactions with veterinarians, staff research specialists, and animal health technicians at the CNPRC as well as many collaborating scientists.

Viral sanctuaries during highly active antiretroviral therapy in a nonhuman primate model for AIDS

North TW, Higgins J, Deere JD, Hayes TL, Villalobos A, Adamson L, Shacklett BL, Schinazi RF, Luciw PA
J Virol. 2010 Mar;84(6):2913-22

Enhanced Antiretroviral Therapy in Rhesus Macaques Improves RT-SHIV Viral Decay Kinetics

North TW, Villalobos A, Hurwitz SJ, Deere JD, Higgins J, Chatterjee P, Tao S, Kauffman RC, Luciw PA, Kohler JJ, Schinazi RF
Antimicrob Agents Chemother. 2014, Jul;58(7):3927-3933

The simian AIDS model benefits HIV-infected individuals by enabling testing and developing novel anti-viral therapies.

Eight rhesus monkeys (each represented with a unique symbol and color) were experimentally infected with the SHIV virus and treated at 6 weeks with an intensified highly active antiretroviral treatment (HAART) consisting of a combination of 4 drugs that inhibit the virus. Virus load in blood plasma (vRNA/ml), measured by a sensitive PCR assay with a limit of detection (LOD) of 15 copies, was suppressed to low levels. This treatment regimen is used in control HIV in patients.

