

Lilley Tran

## **Inhibition of HIV Infection by Gene Editing CXCR4 using Lentiviral Vector CRISPR/Cas9**

As scientists and researchers understand, AIDS is caused by the infection of HIV which can result in long-term complications for patients. Generally, HIV requires binding to primary receptor CD4 and either CCR5 or CXCR4 co-receptors from human T cells. The engineering of CRISPR with protein Cas9 nuclease for targeted gene alteration can be used to knockdown CXCR4 expression. This project will outline the experimental design of gene editing CXCR4 using a lentivirus vector CRISPR/Cas9. Currently, there is no antiretroviral therapy to eliminate CXCR4 expression, so CRISPR could provide a novel method to inhibit this mechanism for HIV infection.