

## **Next-Generation Integrase Inhibitors**

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Human Immunodeficiency Virus (HIV) infections continue to pose a major health threat worldwide. Despite the success of highly active antiretroviral therapy (HAART), there is a need to develop new drugs to treat this disease. One of the most challenging HIV targets is HIV integrase (HIV-1 IN) an enzyme that is crucial to the persistence of HIV infections. The HIV-1 IN enzyme requires the element magnesium to properly function, which presents both challenges and opportunities for drug discovery. This proposal seeks to determine the best ways to take advantage of the magnesium-dependence of this enzyme in the development of new drugs. This research program will take advantage of the U.C. San Diego Center for AIDS Research (CFAR), which will provide necessary resources and expertise to successfully complete these studies.