

## POSTER 41

### THE DEVELOPMENT OF NOVEL TYPES OF ANTI-HIV INHIBITORS AGAINST THE HIV NUCLEOCAPSID PROTEIN

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Although the HAART therapy against AIDS has been seemingly successful so far for controlling the disease, however, the emergence of a case of AIDS recently in New York that is resistant to 17 of the 20 marketed drugs is a reminder that the development of new anti-HIV/AIDS drug targets and drugs or intervention is urgently needed to overcome the current drug resistance problems.

One of such target could be the HIV Nucleocapsid (NC) protein that is involved in almost all of the viral life cycle, especially in the packaging of viral RNA genome into virus particle. In fact, the NC protein as being "mutation non-permissive" in its nature is regarded as a highly promising target for AIDS/HIV drug development that could overcome the resistance problems. Yet, the inhibitors against the protein have been very limited due to the lack of an efficient HTS screening technology.

By developing and exploiting a novel and innovative cell-based assay (*Journal of Virology* 81(11) 6151~p6155) to screen and isolate anti-HIV molecules specifically against the HIV NC protein, we have recently found a number of small molecular chemical inhibitors from screening out around one hundred thousand chemical libraries. These new anti-HIV molecules comprise of novel types of chemical inhibitors targeting the HIV NC protein, which show potent anti-HIV viral activity with a novel mechanism of action as well as low cellular toxicity. The identification of these novel anti-HIV inhibitors against HIV-NC may open up a new aspect of dealing with and overcoming the resistance problems of current HIV/AIDS drugs.