



香港城市大學
City University of Hong Kong
三十周年紀念 30th Anniversary

City University Distinguished Lecture Series

Speaker

Professor David D. Ho
Scientific Director and CEO
Aaron Diamond AIDS Research Center, US



Novel Approaches to HIV Prevention

on

Wednesday, 12 November 2014 at 4:30 pm

at

Wong Cheung Lo Hui Yuet Hall

5/F Academic 3

City University of Hong Kong

Tat Chee Avenue, Kowloon

Abstract

There is no effective vaccine to protect against HIV infection today, and none will be available for the foreseeable future. The lack of an effective HIV vaccine is in part due to the structural properties of the viral envelope glycoprotein, which possesses highly variable amino-acid sequences along with extensive glycosylation that shield the virus from many anti-envelope antibodies. As an alternative strategy, our group is pursuing the use of antibodies as agents for passive administration to prevent HIV infection. We have engineered a number of bi-specific monoclonal antibodies that have remarkable potency and breadth against the virus in vitro. We have in hand a number of constructs with 100% breadth against a large panel of HIV strains with potency in the nM range. Several of these constructs are now being evaluated as candidates for clinical development. In addition, our group has pursued a slow-release formulation of an integrase inhibitor against HIV. The pharmacokinetic profile of this drug in humans suggests that it could be administered as an injectable once every 3 months. In protection experiments against virus challenges in monkeys, this drug has shown 100% protection. We firmly believe that this long-acting integrase inhibitor is a promising agent for HIV prevention in high-risk populations. We are conducting a Phase-2 study at this time, and a Phase-3 efficacy study is anticipated in the homosexual male population, including sites in China, in 2016.

Biography

Professor David D. Ho is the founding Scientific Director and Chief Executive Officer of the Aaron Diamond AIDS Research Center, and the Irene Diamond Professor at The Rockefeller University. He has been the major driving force behind the medical breakthrough in controlling HIV in patients. His studies unveiled the dynamic nature of HIV replication in vivo and revolutionised people's basic understanding of this horrific disease. This knowledge led Professor Ho to champion combination antiretroviral therapy that resulted in unprecedented control of HIV in patients. His team is now devoting considerable efforts to develop vaccines to halt the spread of the virus that causes AIDS. Furthermore, he is now leading a consortium of Chinese and American organisations to help address the HIV/AIDS crisis in China.

Professor Ho has received numerous honours and awards for his scientific accomplishments, including 12 honorary doctorates and the Presidential Medal in 2001 from the US Government, among others. He was inducted into the California Hall of Fame in 2006 and was named *Time* magazine's Man of the Year in 1996. He has been elected as a member of the American Academy of Arts and Sciences, Academia Sinica, Chinese Academy of Engineering and the Institute of Medicine, National Academy of Sciences in the US.

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