Ho: First in human clinical evaluation of 10E8.4/iMab, a potent and broad bispecific antibody against HIV

OVERVIEW

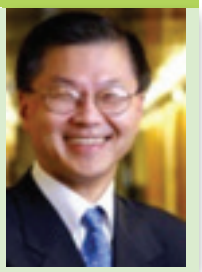
Protection against HIV infection by the infrequent, passive administration of a potent HIV-neutralizing antibody could be a better alternative to current pre-exposure prophylaxis regimens which are based on daily dosing with antiviral drugs. This option requires that the chosen antibody possesses suitable antiviral breadth, potency, and pharmacokinetic properties.

Background: Prior in vitro and preclinical studies at the Aaron Diamond AIDS Research Center (ADARC), performed with Foundation funding, identified 10E8.4/iMab as a potent and broad bispecific antibody against HIV. It neutralized a global panel of 118 HIV-1 pseudotyped viruses with a geometic mean IC50 of 0.001 µg/mL. An earlier variant of 10E8.4/iMab also potently neutralized 98% of viruses in a second panel of 200 HIV-1 isolates belonging to clade C, the dominant subtype accounting for 50% of new infections worldwide, and the most prevalent clade in sub-Saharan Africa. 10E8.4/iMab also reduced virus load substantially in HIV-1-infected humanized mice, and an earlier variant of 10E8.4/iMab provided complete protection when administered prior to systemic HIV challenge.

The activities under this award will advance 10E8.4/iMab into clinical development in order to further evaluate its potential as a novel prophylactic agent against HIV-1. Investigators at ADARC will conduct a first-in-human clinical trial evaluating the safety, pharmacokinetics, and antiviral activity of 10E8.4/iMab. A dose escalation study will be conducted in a phased approach and will evaluate IV administration in HIV-negative participants, IV administration in HIV-positive participants with viremia, and subcutaneous admnistration in HIV-negative subjects. In addition, a master cell bank of an earlier variant of 10E8.4/iMab, known as 10E8.2/iMab, will be generated as a back-up molecule for potential GMP manufacture.

The grant is led by David D. Ho at the Aaron Diamond AIDS Research Center.

Grant at a Glance



Principal Investigator
David Ho, MD

Grantee Institution
Aaron Diamond AIDS Research Center, New York, USA

Project Title
First in human clinical evaluation of 10E8.4/iMab, a potent and broad bispecific antibody against HIV

OPPID
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Grant Award
Up to $7.9 Million, awarded July, 2017

RESEARCH OBJECTIVES

1.) Phase 1 clinical trial to determine the safety, tolerability, pharmacokinetics and antiviral activity of 10E8.4/iMab for HIV-1 prevention

2.) 10E8.2/iMab master cell bank creation for potential GMP manufacture