

Neutralizing Antibody Consortium (NAC)

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Research Areas



Basic Research



Data-Sharing Enabler



Product Development

At a Glance

- Status: **Active Consortium**
- Year Launched: **2002**
- Initiating Organization: **International AIDS Vaccine Initiative**
- Initiator Type: **Government**
- Location: **International**

Abstract

Thirty years since the identification of human immunodeficiency virus (HIV) as the cause of acquired immune deficiency syndrome (AIDS), the development of a safe and effective HIV vaccine remains a global health priority and is widely regarded as the best strategy to end the epidemic. Although the correlates of protection against HIV remain undefined, there is a growing body of literature to suggest that the elicitation of broadly neutralizing antibodies (bnAbs) against HIV is achievable and believed by many to be essential to the success of such a vaccine. Consistent with this need, the primary outcome of this proposal is the demonstration that an HIV ENV based immunogen(s) can be designed to elicit bnAbs in humans. Classical approaches to vaccine discovery have thus far failed to identify immunogen(s) capable of eliciting HIV-specific bnAbs. However, in the past few years, the team assembled for this proposal has made significant scientific advances in identifying and characterizing bnAbs from HIV-positive subjects, and determining the structures of the binding sites for such antibodies on HIV Env, which provides unique opportunities for accelerating immunogen design and screening. This proposal builds on these advances, and it aims to design and screen a new generation of experimental immunogens and to accelerate the best of these into experimental testing in humans and models that mimic the human immune system. This proposal seeks to gain a detailed understanding of the elicited immune response conferred by these immunogens and to catalyze a process of iterative improvements in vaccine design. It is believed that this linkage of immunogen

design and human testing provides the best opportunity to identify and optimize immunogens capable of eliciting bnAbs and thereby develop a highly effective HIV vaccine.

Mission

Neutralizing Antibody Consortium funds will be used for research projects in two broad categories: structural biology and immunogen design. The consortium will tackle these issues by combining expertise in crystallography, antigen design, and vaccine testing, using state-of-the-art technology standardized across the research institutions. In addition to committing its own intellectual muscle, the consortium will contract with other groups to accelerate the process of innovative problem solving.

Intellectual Property

Consortium members have entered into intellectual property agreements providing the International AIDS Vaccine Initiative with the option for a license to develop any invention from the consortium, to fulfill the mission of ensuring that developing countries can access future AIDS vaccines at reasonable costs.

Sponsors & Partners

Dale and Betty Bumpers Vaccine Research
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International AIDS Vaccine Initiative (IAVI)
National Institutes of Health
The Scripps Research Institute
University of Pennsylvania School of Medicine
Weill Medical College of Cornell University

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