Vaccine BRIEFS

IAVI Opens AIDS Vaccine Laboratory in New York City

On November 12, IAVI celebrated the opening of its AIDS Vaccine Design and Development Laboratory, the first research facility in the world dedicated exclusively to the research and development of an AIDS vaccine. The 36,000-square-foot lab is housed in an historic building in New York City known as the Brooklyn Army Terminal (BAT), at which the city and state governments, along with private entities, are developing a state-of-the-art bioscience center. New York City Mayor Michael Bloomberg, who spoke at the opening of the Design Lab, said investing in bioscience is a way to diversify the city's economy in troubling economic times. IAVI, the first research group to occupy the bioscience center at the BAT, received US$12 million from the New York City Economic Development Corporation to renovate the laboratory space. "The potential to change the world is right here in this building," said Bloomberg. "New York City is very glad to partner with IAVI in hastening the day to the development of a vaccine."

Scientists at the new Design Lab will be working with a broad network of researchers affiliated with IAVI's established research consortia, as well as partners in both academia and industry. "This past year has been really tumultuous for the AIDS vaccine field," said Seth Berkley, founder and president of IAVI, referring to the unexpected failure of Merck's vaccine candidate in the STEP trial. There are many scientific challenges facing AIDS vaccine researchers and the Design Lab is meant "to focus on these challenges and solve them as quickly as possible," he said.

Photo by Olga Shmaidenko

▲ A LAB GROWS IN BROOKLYN New York City Mayor Michael Bloomberg spoke about the city's commitment to HIV prevention, education, and treatment, but said, in the end "you have to have a vaccine."

One of the key challenges is identifying immunogens that are capable of inducing broadly neutralizing antibodies against HIV, and this is one of the main areas of focus at the Design Lab. "We know in principle that there are antibodies out there that do what we want them to, the problem is how to induce them," said Dennis Burton, a professor of immunology and molecular biology at the Scripps Research Institute and head of the Neutralizing Antibody Center (see *Vaccine Briefs*, *IAVI Report*, Sept-Oct. 2008). Burton, who spoke both at the opening ceremony and a science symposium held earlier that afternoon, said that all vaccines that are in use today have an antibody component and that a protective AIDS vaccine candidate will have to induce both broadly neutralizing antibodies and potent T-cell responses. While inducing antibodies against HIV has proven much more difficult than for other viruses, HIV does have weaknesses, Burton said, and "we're confident that in the end we will defeat this virus."

Researchers at the Design Lab will also focus on developing T-cell vaccine candidates, based on replicating viral vectors, which are capable of controlling HIV infection as well as the live-attenuated simian immunodeficiency virus (SIV) vaccine can control SIV infection in nonhuman primates. There is some evidence emerging from recent studies that suggests T-cell responses can effectively control virus in vaccinated animals (see *Research Briefs*, this issue, and *AIDS vaccine researchers STEP up to the challenge*, *IAVI Report*, Sept.-Oct. 2008). "T cells might be able to do a lot better than we initially thought," said David Watkins, director of the department of pathology at the University of Wisconsin-Madison.

Berkley said the Design Lab is well positioned to test and develop these new T-cell or antibody candidates. "We've got an engine to move things through quickly if there's promise."
—*Kristen Jill Kresge*