TB: The Urgent Need for New Vaccines

A Global Epidemic
Tuberculosis (TB) devastates individuals, families, societies and economies. Today, one third of the world – more than 2 billion people – are infected with the bacteria that causes TB. A person with active TB can spread the disease to 10 to 15 people within a year, infecting others simply by coughing or sneezing.

More Difficult than Ever to Fight
Despite our best efforts, TB is becoming more difficult and expensive to treat. The rise in multidrug-resistant (MDR) and extensively drug-resistant (XDR) strains presents a grave threat around the globe. TB can force families and communities into a cycle of poverty, threatening the economic security of entire regions.

The Need for New Vaccines
The most effective way to stop an epidemic like TB is to prevent its spread. While the existing TB vaccine (BCG) protects some children from severe forms of TB, it is unreliable in preventing pulmonary TB, which primarily affects adolescents and adults and is the most infectious form of the disease.

New Vaccines would have a Major Public Health Impact
New vaccines are at the center of future TB elimination efforts. A vaccine that prevents adolescents and adults from acquiring, developing and transmitting disease would be the single most cost-effective tool in mitigating this epidemic.

Tuberculosis at a Glance
- In 2013, 9 million new people became sick with TB, with 1.5 million deaths from the disease.
- Each year, there are nearly 500,000 cases of drug-resistant TB.
- By 2013, 100 countries had reported cases of extensively drug-resistant (XDR) TB.
- The economic burden of TB in Europe alone is estimated to be more than €5B per year due to treatment and lost productivity.
- A partially efficacious preventive TB vaccine for adolescents and adults could avert 30-50 million new cases of TB by 2050, and an additional 7-10 million TB cases in infants.

A Nonprofit Biotech with a Vast Global Network
Aeras is a fully integrated, global nonprofit biotech with capabilities in finance, portfolio management, immunology, assay development, clinical trials, regulatory affairs and policy, advocacy and resource mobilization, as well as in-house manufacturing capacity.

Serving as a critical translational bridge from the bench to the field, Aeras has sponsored and conducted over 30 clinical vaccine trials enrolling thousands of subjects, and is a key partner in seven active clinical development programs. Aeras works in partnership with individuals, research organizations, academic institutions, funders, policymakers and others around the world to advance TB vaccine science.

A Robust Pipeline of Candidates
To achieve the goal of bringing more effective TB vaccines to market, Aeras focuses on developing a diverse and robust portfolio of next-generation vaccine candidates using novel platforms, scientific approaches and technologies. Together with experts from around the world, Aeras has established comprehensive, measurable and globally acceptable criteria for selecting, assessing and advancing only the most promising vaccine candidates through the R&D pipeline.
Aeras is a Product Development Partnership advancing the development of tuberculosis vaccines for the world. In collaboration with global partners in Africa, Asia, North America and Europe, Aeras is supporting the clinical testing of six experimental vaccines as well as a robust portfolio of earlier stage candidates.

Aeras receives funding from the Bill & Melinda Gates Foundation, the UK Department for International Development, the Netherlands’ Ministry of Foreign Affairs, the Australian Agency for International Development, and a range of other governments. Aeras is based in Rockville, Maryland; Cape Town, South Africa; and Beijing, China.

**About Aeras**

**R&D Enhancing Knowledge and Capacity**

Aeras is accelerating the development of new TB vaccines and making an impact along the way. We are strengthening research capacity in TB-endemic countries around the world through investments and partnerships on multicenter projects that combine clinical trials, research and development and epidemiology, fostering new collaboration between researchers and clinicians.

**We’re in this Together**

TB vaccine research and development is complex and costly. No one organization or institution can do it alone. As more TB vaccine candidates enter late-stage clinical trials, efforts to develop new TB vaccines to fight the global epidemic will require even greater collaboration and investment.

**Major Progress: Innovation and Impact**

Over the past decade, the TB vaccine field has made tremendous strides. More than a dozen new vaccines have been tested in human clinical trials and a robust pipeline of next-generation candidates (Figure 1) are in early stages of development.

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**Figure 1. The Global Portfolio of TB Vaccine Candidates.** Through a portfolio management approach, Aeras facilitates TB vaccine development by focusing on an entire portfolio of TB vaccine candidates, rather than independently developing single vaccine candidates through distinct scientific and clinical decision-making processes.

**We refer you to:**

**References**


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**VIRAL VECTOR**

**rBCG**

**PROTEIN/ADJUVANT**

**ATTENUATED M. TB**

**MYCOBACTERIAL**