

WANTED

LIVE OR ATTENUATED



Name:

Mycobacterium Tuberculosis

Responsible for:

Tuberculosis or 'TB' (short for Tubercles bacillus)

Characteristics:

Tuberculosis is a highly infectious and serious disease in humans, with one-third of the world's population infected. The mycobacterium attacks the lungs and initial symptoms include a chronic cough, fever, night sweats and weight. It used to be known as "consumption" due to its wasting effects on the body. The infection is spread via liquid droplets from the coughs and sneezes of people with active infections. While these people are rare, as most people have latent asymptomatic infections, they can infect 10-15 people per year if they are not treated. Infection can last for years, resulting in the destruction of the lungs or the spread of the mycobacterium from the lungs to other areas of the body. Mycobacteria possess a thick 'waxy' cell wall that makes them particularly resistant to certain antibiotics and the actions of the immune system.

Where are we now?

Tuberculosis is now more prevalent than at any time during history. The World Health Organisation (WHO) has developed a global plan called 'Stop TB 2006-2015' to reverse this. The current treatment for tuberculosis is a long course of antibiotics and more than 36 million people have been cured over the last 13 years. Antibiotic-resistant forms of tuberculosis have unfortunately arisen and are an increasing problem with as many as 1 in 4 people infected with an untreatable form of TB. Vaccination is used as a way of preventing infection, the most commonly used vaccine is the Bacillus Calmette-Guerin (BCG) vaccine. This vaccine is very efficient in children but less so at preventing infection in adults, who represent the majority of TB cases. (further information here: www.immunisation.nhs.uk/vaccines/BCG/vaccine).

The Stop TB partnership and initiatives such as the Aeras Foundation are working to develop new treatments and vaccines to protect us from tuberculosis, with several promising candidates in clinical trial at the moment. These new treatments and vaccines will be essential for achieving the WHO's goal of eradicating TB by 2050.

Can you help? Immunology needs you!