

**Title:** Development of an mRNA vaccine for tuberculosis**Authors:**

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**Abstract**

Despite of available curative antibiotics and licensed vaccine, tuberculosis remains a major health threat with more than 10 million new cases each year and estimated 2 billion individuals carrying latent *M. tuberculosis* infection which may reactivate later in life. To fight tuberculosis, we have developed an mRNA vaccine carrying multiple *M. tuberculosis* antigens and potentially protecting both from primary infection and from the reactivation of latent infection. We have shown that our vaccine candidate activates cellular immune response and confers significant protection against acute *M. tuberculosis* infection in mice. Further studies identifying the most effective antigen combination and the number of doses as well as vaccine's ability to boost the protection conferred by BCG, the current tuberculosis vaccine, are on their way. Overall, the aim of this project is to carry out preclinical studies in mammalian models to evaluate the safety and the efficacy of our mRNA vaccine candidate prior to entering clinical trials.