

## Our group

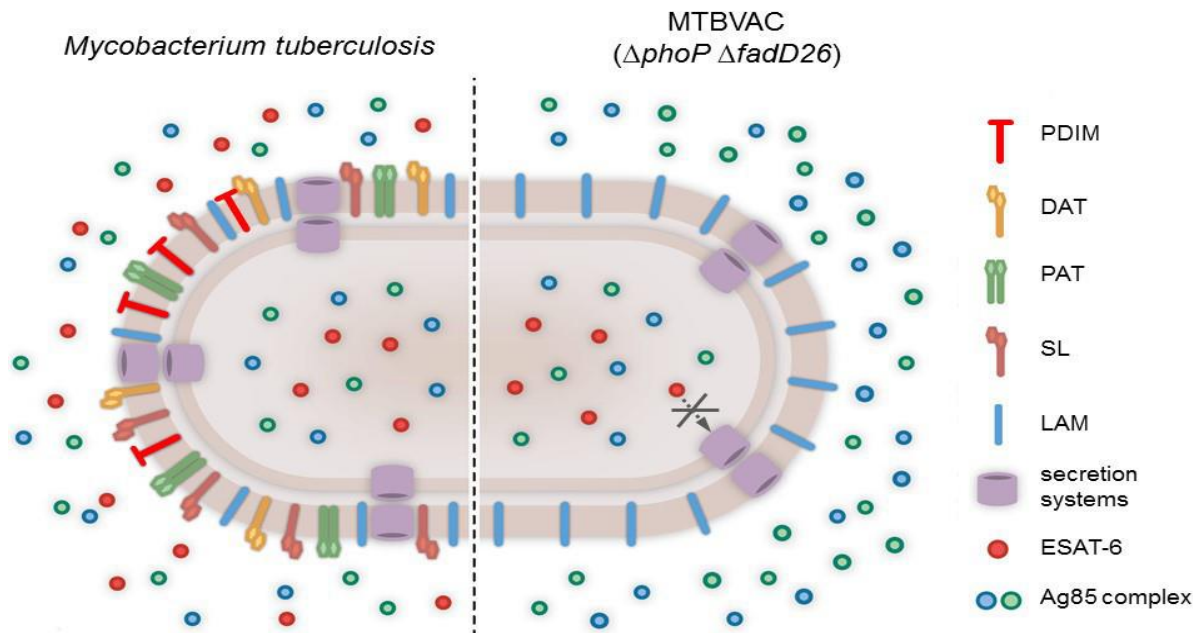
The **Mycobacterial Genetics Research Group**, at the University of Zaragoza (<http://genmico.unizar.es>) was founded by [Carlos Martin](#) in 1992 after his return from Professor Brigitte Gicquel's lab at Pasteur Institute in Paris, where he was a permanent researcher for five years. Carlos Martin MD, PhD is a Professor of Microbiology in the Faculty of Medicine at University of Zaragoza and member of the TBVI Steering Committee, with more than 25 years of experience in mycobacterial genetics.

Since 1992 the group has led numerous pioneering TB research projects, both of national and international significance, in TB diagnosis, drug resistance and vaccine discovery using state-of-the-art Mycobacterium tuberculosis genetic engineering. In the sphere of TB vaccine discovery, our team aims to develop novel tuberculosis vaccines and vaccination strategies to improve protection against pulmonary TB. Current work is being done in collaborative tuberculosis research projects together with **research groups of Europe** ([TBVAC2020](#)) and **Latin America** (<http://www.eurolactb.org> and <http://slamtb.org>). Since 2007 our group has been integrated into the Spanish Research Network on Respiratory Disease, **CIBERES**, (Instituto de Salud Carlos III (<http://www.ciberes.org>)).

## Our research

We have **led the research and discovery** of the live vaccine candidate **MTBVAC**, which is based on two stable deletion mutations, without antibiotic resistance markers, in the virulence genes *phoP* and *fadD26* engineered in a clinical strain of *M. tuberculosis*. **Inside the TBVI consortium**, the discovery phase of MTBVAC has included rigorous preclinical characterization by independent laboratories and research partners demonstrating robust attenuation, safety, and immunogenicity and protective efficacy profiles in different animal models supporting further vaccine development. The promising preclinical data led UZ to form an industrial partnership with the Spanish biopharmaceutical company **Biofabri** (<http://www.biofabri.es>) with the objective to manufacture and develop MTBVAC as vaccine for human use (in compliance with Good Manufacturing Practices) supporting progress to first in human clinical evaluation. As result of the successful industry - academia collaboration coupled with the help of

independent expert advisors through TBVI PDT/CDT, in Oct 2013, MTBVAC entered first-in-human clinical evaluation at **CHUV in Lausanne, Switzerland** (NCT02013245) evaluating safety, tolerability and immunogenicity of MTBVAC as compared to BCG. The trial successfully completed in Nov 2014 and supported entry into a Phase 1 trial in newborns by the **South African Tuberculosis Vaccine Initiative (SATVI)**. The promising adult safety and immunogenicity data in Switzerland support clinical development of MTBVAC in different target age-group populations (from adults to newborns) in TB-endemic countries. Biofabri is the Clinical Trial Sponsor of MTBVAC.



## MTBVAC Clinical trial

[Dose-Escalation Study to Evaluate the Safety and Immunogenicity of MTBVAC Vaccine in Comparison With BCG Vaccine.](#)

### **Projects**

TBVAC2020; Advancing novel and promising TB vaccine candidates from discovery to preclinical and early clinical development

BIO2014-52580-P - Innovating MTBVAC as tuberculosis vaccine

INNFACTO: Ref. IPT-2012-0327-090000 “Vacuna Inactivada contra la tuberculosis en base a una cepa modificada genéticamente

### Relevant publications

Industrial partner 

Collaborators  **CTVD**  
The Collaboration for TB Vaccine Discovery

 **EurolacTB**  
European-Latin American-Caribbean-Tuberculosis Consortium

 **SLAMTB**  
SOCIEDAD LATINOAMERICANA DE TUBERCULOSIS Y OTRAS MICOBACTERIOSIS

### Our TB Vaccine in the news

