

EVALUATION OF *M. TUBERCULOSIS*-INDUCED RESPONSE IN NEWBORNS VACCINATED WITH DIFFERENT STRAINS OF BCG

Bitencourt , J.¹; Sarno, A.¹; Takenami , I.²; Pereira, S.³; Arruda, S. ^{1,4}

¹ Instituto Gonçalo Moniz (IGM), Fundação Oswaldo Cruz (Fiocruz), Salvador, BA, Brasil;

² Escola de Ciências da Saúde (ECS),

³ Universidade Salvador (UNIFACS), Salvador, BA, Brasil;

⁴ Universidade Estadual da Bahia (UNEB), Salvador, BA, Brasil

The attenuated strain of *M. bovis* (BCG) is established as the only available vaccine against tuberculosis (TB), and the variance of its efficacy can range between 0 to 80% depending on the study design, geographical areas where the study were performed, among other aspects. Neonatal BCG vaccination can protect against severe and disseminated forms of TB in children but in adults, justifying its use in the Brazilian vaccination schedule offered by the Ministry of Health (MS). However, pulmonary TB still is a huge health problem worldwide and vaccination do not seem to be the best way to reduce the number of cases. In Brazil, the BCG Moreau is the standard strain used in the national immunization program and most experimental studies. The BCG Moreau vaccine induce an increase in the levels of inflammatory cytokines, such as IFN- γ , characterizing the protective response against *Mycobacterium tuberculosis*. A proposal to replace the vaccine strain currently used in Brazil justifies an evaluation of the immunogenic potential and protection induced by the new candidate BCG Russian-1. Although both strains are part of the same group, BCG Russian-1 is used primarily in European and African countries, and mutations that differentiate them and genetic variation in the population may have repercussions in the immunological response of vaccinated neonates. In the present project, we propose to characterize and evaluate the profile of cells and cytokines produced in vitro by newborns whole blood after culture with *Mycobacterium tuberculosis* antigens before and after vaccination with both strains of BCG.