COMPARATIVE ANALYSIS OF SURFACE PROTEINS OF *MYCOBACTERIUM BOVIS*-BCG VACCINES – A PROTEOMIC APPROACH

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One third of the world´s population is infected by *Mycobacterium tuberculosis,* the agent of tuberculosis, which kills almost 3 million people per year. *M. bovis*-BCG is the only vaccine available against tuberculosis. In Brazil the BCG vaccine strain used is BCG-Moreau, considered an old strain, therefore closest to the original BCG strain derived by Calmette and Guerin in the early 1920's. Mycobacteria surface proteins have been associated with the modulation of the host immune response. In this work, a proteomic approach was used in order to define the 2-D profile of this fraction of proteins comparing the brazilian vaccine with the referent strain, BCG Pasteur in different production media, Sauton (intradermic vaccine) and IVM (oral vaccine). The results show the standardization of the different extraction and precipitation conditions that were analyzed through 2-D gels using a pH 4 – 7 range. Quantitative and qualitative analyses demonstrate significant differences in the pattern of expression of these surface proteins. The identification of these differential spots, by mass spectrometry, will provide a detailed analysis of the surface protein profile, allowing the identification of useful markers for quality control of the production of the BCG-Moreau vaccine.
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