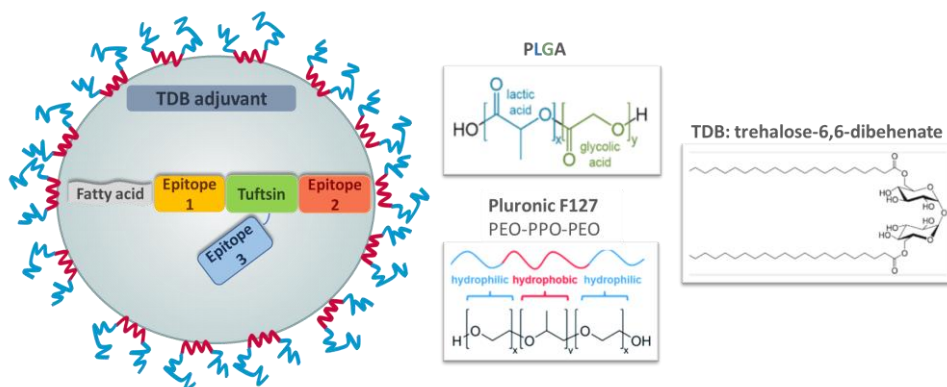


# Nanoparticulated multi-epitope conjugates as vaccine candidates against tuberculosis

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The most challenging factor in preventing tuberculosis (TB) is the ability to provide immunity against the multiple stages of the pathogen and provide cross-protection within the subtypes. Immunization with a multivalent subunit vaccine, which combines multiple antigens derived from different stages of the pathogen's life cycle, hold promise for overcoming the major obstacles.



In this study, promiscuous epitopes of immunodominant proteins were conjugated to a lipo-peptide carrier by using chemoselective coupling techniques. As delivery platform, poly(D,L-lactic-co-glycolic acid) (PLGA) nanoencapsulation was applied and in order to enhance the immunostimulatory effect, a bacterial cell wall component (TDB) was incorporated. Nanoparticulated vaccine conjugates and relevant controls were administered (sc.) to BALB/c mice and the induced immune response were evaluated. Synthesis, analytical and structural characterization together with the comparison of the different conjugates and the effect of encapsulation and adjuvant incorporation will be discussed in the presentation.

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