



# BAXERNA

## Next-Generation Bacterial mRNA Vaccines

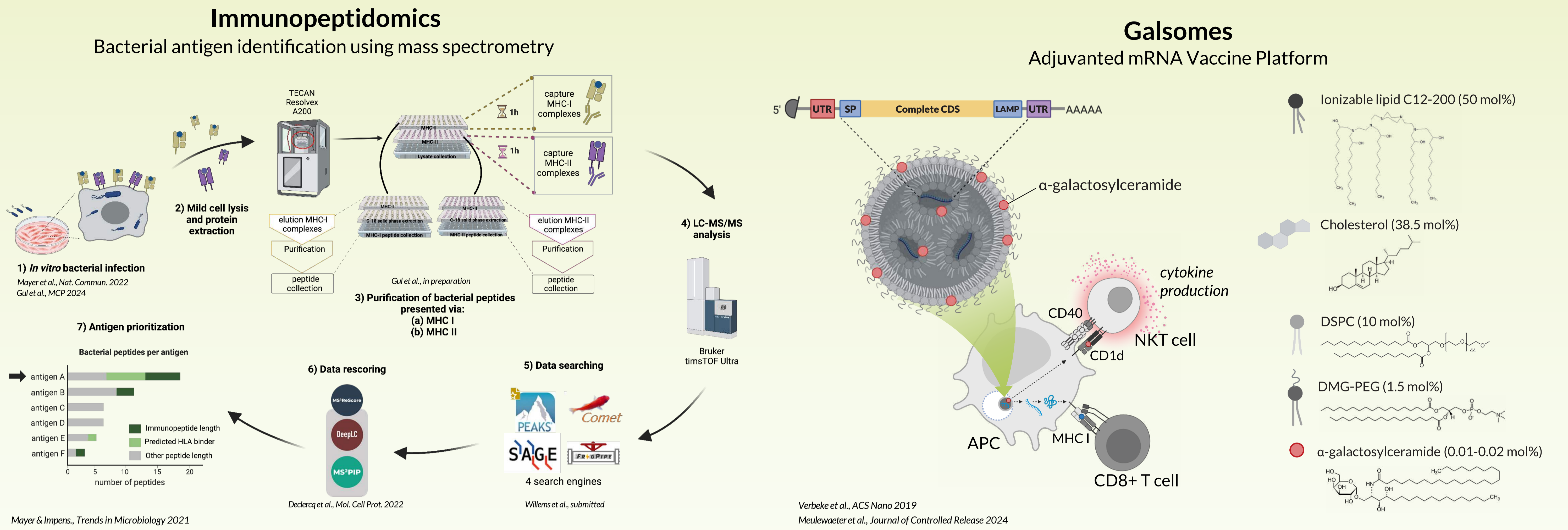
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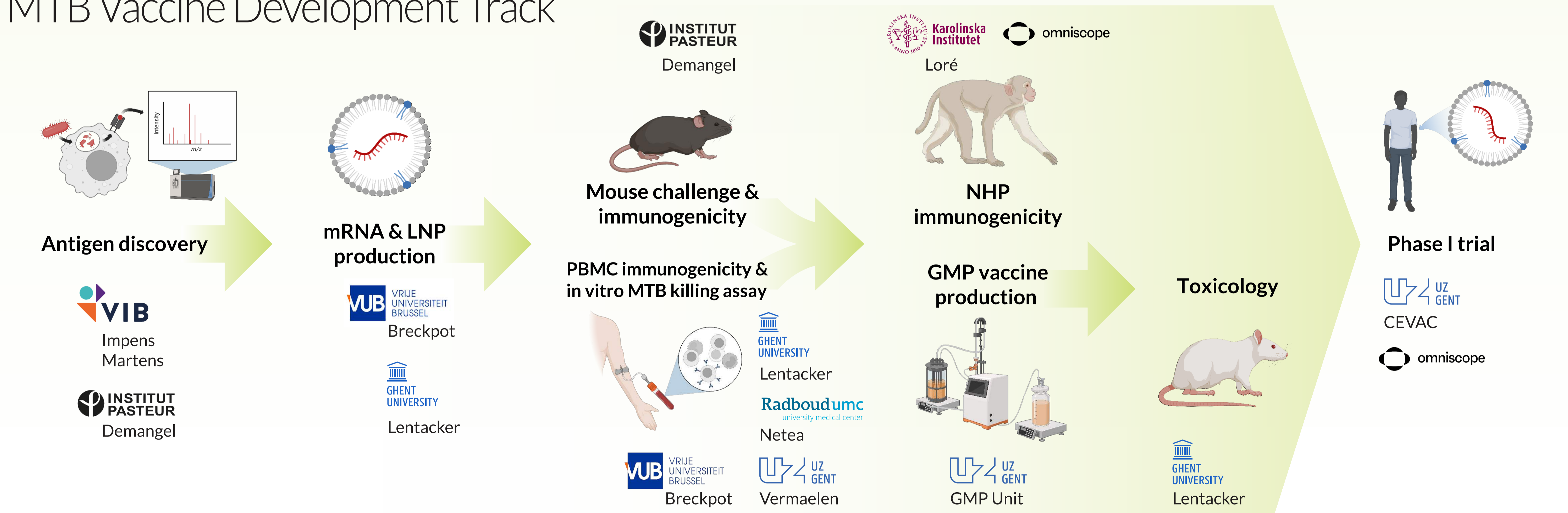


### Rationale & Approach

Diversifying the tuberculosis vaccine development pipeline is recognized as an important strategy to find an effective vaccine and curb the tuberculosis crisis. The EU-funded project BAXERNA (www.baxerna.eu) aims to identify highly presented *Mycobacterium tuberculosis* (MTB) antigens, generate improved vaccine formulations, and bring a new tuberculosis vaccine to Phase I. BAXERNA's pipeline brings two key innovations: 1) a state-of-the-art immunopeptidomics workflow that allows highly sensitive, empirical discovery of the bacterial epitopes presented on infected cells, and 2) the Galsome platform, an mRNA vaccine formulation that incorporates the adjuvant alpha-galactosylceramide and elicits strong innate and adaptive immune responses.

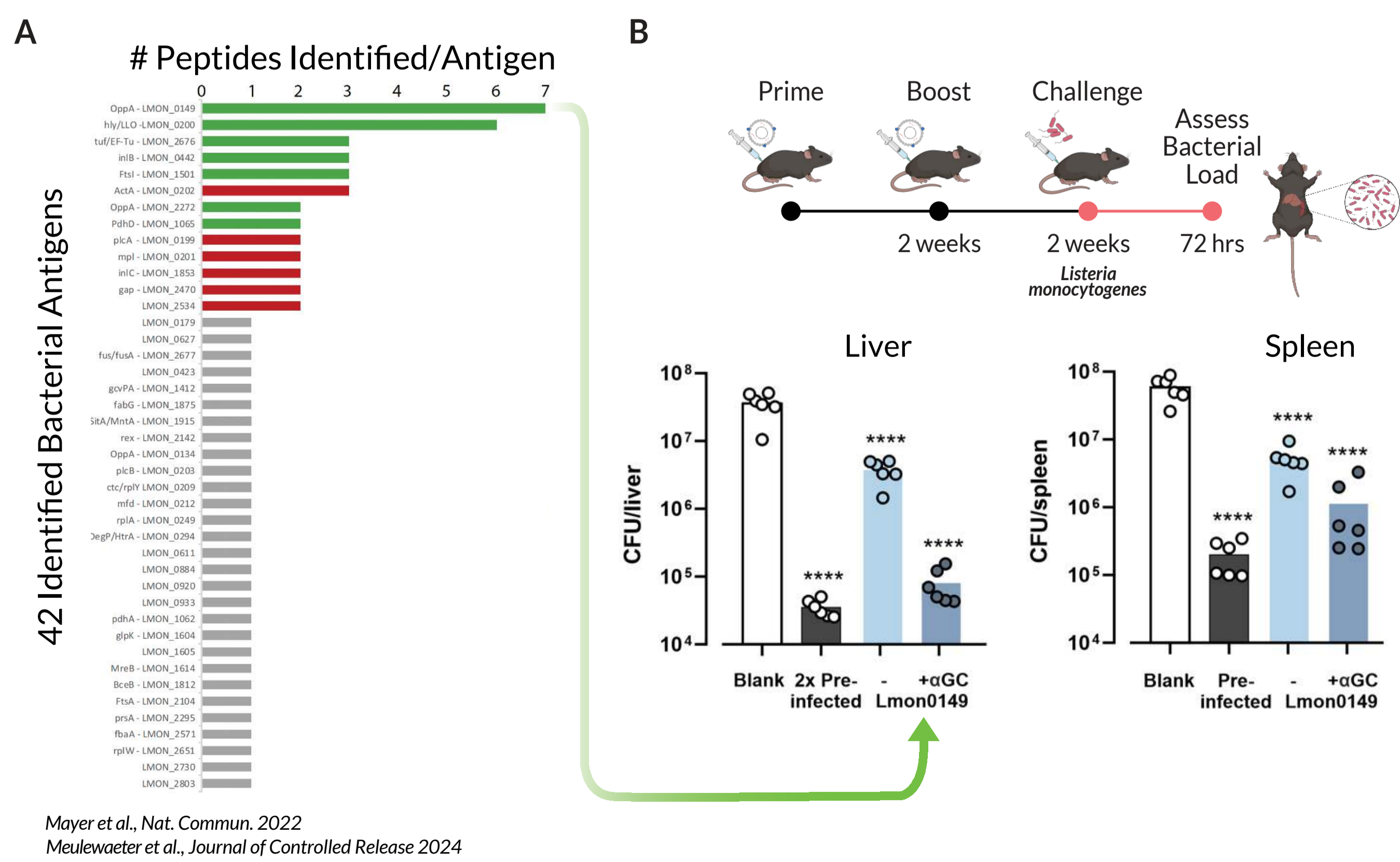


### MTB Vaccine Development Track



### Proof of Concept

mRNA vaccine formulations against *Listeria monocytogenes*



### MTB Antigen Discovery Data

MHC Class I antigens identified in infected macrophage cell lines & primary macrophages

Impens, Martens, Demangel labs: unpublished results  
Leddy et al., eLife 2023

