Production of a pathogen vaccine on the TFR123 platform

- In the case of the TFR123 immunisation platform, three peptides with different structures and functions were covalently linked (Figure 1). We extended the C-terminal of a specific hydrophobic modified but originally soluble peptide LBD (lipid binding domain) with an OD (oligomerization domain) sequence. Pathogenic epitopes were attached to the C-terminal of the "LBD-OD" fusion protein. This was done with the aim of creating the most complete and stable antigen presentation platform possible.
- The TFR123 recombinant protein by itself oligomerizes into a large aggregate, while interaction with lipid membranes triggers a directed polymerization to generate a highly stable immunization polymer on the surface of biological membranes (cell membrane) or artificial membranes (liposome). Following directed polymerisation, pathogenic epitopes, with a perfect orientation for immunisation, are deposited in high abundance on the outer surface of the stable polymer.
- IP status: a PCT procedure has been initiated from the Hungarian patent procedure for the related invention, which will allow us to obtain the broadest possible territorial patent protection in terms of potential market coverage. The PCT procedure has been extended to China, the USA and a European regional procedure has been initiated
- Technological maturity: TRL2
- Contact Balázs Czibók (+36309255619, czibok.balazs@pte.hu)

#

The TFR123 immunisation platform may provide the missing technological breakthrough to address the shortcomings of mRNA-based technology

Tradition & Innovation

PÉCSI TUDOMÁNYEGYETEM
UNIVERSITY OF PÉCS