

Recombinant Vaccine Based on a Virus-Like Particle of the Tick-Borne Encephalitis Virus

About the invention

The invention relates to a vaccine based on **immunogenic antigens** used to prevent tick-borne encephalitis virus infections, and to a recombinant virus-like particle of the tick-borne encephalitis virus and its amino acid sequence comprising three selected fragments of TBEV proteins:

- The ssprMEV263C VLP particle,
- The prM protein sequence
- The E protein sequence.

Traditional TBEV vaccines are based on inactivated whole viruses. Although they are effective, their limitations include the need for multiple booster doses, reduced immunogenicity in certain populations, and the fact that their production requires the virus to be cultured under BSL-3 conditions, which increases costs and makes scaling up difficult.

The proposed solution offers an alternative to inactivated vaccines based on VLPs, which:

- mimic the structure of the virus
- not containing any genetic material,
- and elicit a strong immune response whilst maintaining a high safety profile.



TRL 6

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IP Protection

The invention is protected by patent application No. **P.455371**, Polish Patent Office

Implementation progress

TRL 6 – Technology demonstrated in relevant environment

Possible cooperation

- Licensing agreement
- Transfer of ownership
- Partnership in order to further research or commercialization