

Abstract

Tick-borne encephalitis is one of the most severe tick-borne neuroinfections in Europe and Asia. This thesis is focused on its source, Tick-borne encephalitis virus (TBEV). Diagnostics of TBEV is usually based on detection of specific anti-TBEV antibodies in patient's serum by using enzyme-linked immunosorbent assay. However antibodies that develop during the infection often cross-react with other flavivirus specific antibodies. As an antigen for ELISA tests the formalin inactivated virus is usually used, its production is restricted to laboratories with biosafety level 3. This thesis is seeking for possibilities of production of specific antigen for serological diagnostic of TBEV using heterologous expression systems. As the new antigens, parts of glycoprotein E and subviral particles were used. Production of antigen in the form of subviral particles seems to be a good alternative to inactivated virus.