

Comparison of neutralising activity of vaccine-induced TBEV antibodies against 10 genetically different TBEV strains of the European subtypes

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Vaccination against TBEV has been shown to be highly effective. However, differences in the neutralization activity of antibodies have been observed in vaccinated individuals. The aim of this study was to investigate the neutralizing capacity of vaccine-induced antibodies against 10 different TBE-virus strains after anti-TBEV IgG standardisation. 36 sera from participants were obtained and divided into three groups: 1 Encepur, 2 FSME-IMMUN, 3 Mix (participants who had received at least three vaccine doses, at least one per brand). All sera exhibited high avidities. The 12 sera from each group were titrated by ELISA and adjusted to 250 VU/ml. Then the adjusted sera were tested by micro-neutralization assays against the 10 TBEV strains using a fix antibody concentration and varying virus concentrations (101 to 105 virus particles/ml). No significant differences were found between the groups. Variations within the groups, related to individual sera, were not associated with factors such as age or vaccination history of the individuals. Neutralizing activity was dependent on the viral strain used or on individual factors of the vaccinated individuals. The neutralizing activity did not differ based on the vaccines used. However, a vaccination history during which both vaccines were used seems to lead to a more uniform antibody response against the different viral strains than in participants who had received only one brand of vaccine.

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No, I am not a Junior Scientist.

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