Abstract

Equine viral arteritis (EVA) is a contagious viral disease that frequently causes mild or subclinical infections in adult horses. Only one EAV serotype has been described. However, there are differences in antigenicity, pathogenicity and neutralization characteristics of virus field strains. The interaction of two viral proteins, GP5 and M, is critical for infectivity and amino acid changes in the GP5 sequences have an effect on the neutralizing phenotype, regardless the effects of other viral proteins. The objective of the present study was to evaluate the neutralization phenotypes of the 5 unique Argentine EAV strains reported and to compare them with the neutralization phenotypes of the EAV-UCD reference strain, with special emphasis on the analysis of M and GP5 proteins. The strains had a similar neutralization phenotype pattern when anti-EAV serum, derived from EAV seropositive horses, was used in the assay. Argentine strains have almost the same amino acid substitutions, with the exception of LP01 strain, that mainly involves the first variable region V1, especially in neutralization sites B and C. However, they are fairly different from the EAV-UCD strain. Nevertheless, the nucleotide and amino acid differences observed among the Argentine strains LP02/R, LP02/C, LP02/P and LP-LT-ARG did not show any variations in the neutralization phenotype.

Keywords

Equine arteritis virus, Cross, virus neutralization, GP5 and M proteins.