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Binding behaviour of antibodies reacting specifically with an immunodominant region of the transmembrane protein gp41 of HIV-1

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Summary

A highly conserved region of the transmembrane protein gp41 of the HIV-1 was found in which the amino acid sequence 606 to 620 was characterized as an immunodominant region. The binding behaviours of a human monoclonal antibody and of polyclonal specific antibodies in sera of HIV-infected persons to this particular sequence have been studied. In two sandwich-type ELISAs with synthetic peptides as antigen representing this region, sera of 312 HIV-infected persons at all stages could be clearly discriminated against 500 anti-HIV antibody negative sera of healthy blood donors.

HIV; Anti-HIV ELISA; Synthetic peptide; Transmembrane protein gp41

Introduction

Synthetic peptides as solid-phase antigens in anti-HIV third generation screening ELISAs are more reproducible and more reliable since the insolubilized antigen is easier to standardize. Whereas former tests with purified virus produced some false-positive results, primarily due to serum reactions with impurities derived from the host cells, this risk is very low now because of the high purity of the peptides (Döpel et al., 1989; Porstmann et al., 1989).

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