



SELECTION OF SPECIFIC HUMAN SINGLE CHAIN ANTIBODIES AGAINST GLYCOPROTEIN 120 OF HIV

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ABSTRACT

The development of human specific antibodies with broadly neutralizing properties is needed for preventing of HIV-1 infection. The production of neutralizing antibodies against HIV-1 envelope glycoproteins have shown effective neutralization of different strains of the virus. Due to several advantages of single chain antibodies (scFvs), these antibodies have been introduced in anti-viral targeted therapy. In this investigation we describe the selection of specific scFvs against RGPGRAFVTI sequence, conserved neutralizing epitope of gp120. After four rounds of panning a specific clone was selected with the frequency of 65%. The selected scFv was tested in ELISA. Results demonstrated the reactivity and specificity of the selected scFv. The OD obtained from reaction of the antibody with the corresponding epitope was significantly higher than the negative control. The isolation of such a specific anti-gp120 of HIV suggest further evaluation of the selected specific scFv for its application in clinical use.