

Poster presentation

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Phage Display Selection of HIV Specific Conserved Mimotopes With IgG from Long-term Non-progressors

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Background

The aim of this study is to identify conserved epitopes of HIV-1 neutralizing antibodies in polyclonal plasma from LTNP to finally derive vaccine candidates.

Materials and methods

The presence of neutralizing antibodies in 9 LTNP sera was proved by in vitro neutralization assays. Phage displayed peptide libraries were screened with LTNP IgG. HIV-specific mimotopes were analyzed for homology to the gp120 structure by a software (3DEX) especially developed for this purpose. Mice were immunized with interesting phages and their sera were analyzed for neutralizing activities against HIV-1.

Results

After biopannings, between 19% and 75% HIV-specific phage clones were identified by ELISA. Mimotope sequences were identified and could be aligned by 3DEX to linear or conformational epitopes on gp120. A peptide specific immune response was detected in sera of immunized mice. The first mice sera analyzed showed neutralizing activities against HIV-1.

Conclusion

Mimotopes could be selected from LTNP sera that represent conformational epitopes on gp120. Those ones inducing neutralizing antibodies upon immunization potentially are suited to derive vaccine candidates.