Retrovirology

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Oral presentation

Focusing the immune response on the V3 loop of HIV-1 gp120 induces cross-clade neutralizing

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Experiments were performed to determine if focusing the immune response on a single neutralizing epitope of gp120 would result in cross-clade neutralizing antibodies (Nabs). Thus, rabbits were immunized with 2–3 priming doses of gp120 DNA (from clades A, B, or C) and with two boosters of fusion proteins carrying the consensus V3 epitope from either clades A, B or C. Immune sera neutralized primary isolates from strains and clades heterologous to those of the prime and boost; ND50 titers exceeded 1:20. ND50 titers >1:800 were achieved against SF162 pseudoviruses carrying the consensus V3 loops of clades A1, AG, B, AE, and F. The neutralizing activity was primarily due to V3-specific Abs as shown by peptide absorption experiments. The neutralizing activity could be significantly broadened as a function of the clade used to construct the gp120 DNA prime and the V3-FP boost.