Retrovirology



Poster presentation



# P04-10. Neutralization of Tier 1 and Tier 2 pseudoviruses by human anti-V3 monoclonal antibodies

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## Background

The structural conservation of the V3 region is related to its biological function, and explains the ability of many anti-V3 monoclonal Abs (mAbs) to cross-neutralize diverse HIV-1 strains. Experiments were undertaken to determine the proportion of Tier 1 and 2 viruses that are neutralized by anti-V3 mAbs

## Methods

Eighteen anti-V3 mAbs were developed from the cells of individuals living in Cameroon, India and the New York City area, respectively. The mAb neutralizing activity was tested by titration in the TZM-bl cell assay against 34 Tier 1 and Tier 2 pseudoviruses (psVs) derived from the envelopes of viruses from clades A, AG, B and C. IC50 values of <50 μg mAb/ml were defined as positive for neutralization.

## Results

All 10 Tier 1 psVs from clades A, AG, B and C were neutralized by one or more of the 18 mAbs. The median IC50 value for neutralization of Tier 1 psVs by anti-V3 mAbs was 0.8 ug/ml. Of the 24 Tier 2 viruses from clades B and C that constitute the current standard panels, 8 of 24 were neutralized by one or more mAbs. The median IC50 value for neutralizing anti-V3 mAbs against Tier 2 viruses was 34.5 μg/ml. The anti-V3 mAbs derived from Cameroonian subjects (mostly infected with AG viruses) showed the greatest breadth, neutralizing 3 clade C and 4 clade B Tier 2 viruses. Clade B-derived mAbs neutralized 1 clade C and 4 clade B psVs, and mAbs from Indian subjects neutralized just two clade C Tier 2 viruses.

## Conclusion

Neutralization of 100% of Tier 1 and 33% of Tier 2 viruses in the standard panels by anti-V3 mAbs suggests that anti-V3 Abs will be a useful and important component of a protective vaccine-induced immune response.