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Poster presentation



# P04-21. Different human serum antibody profiles elicited by three candidate HIV vaccines using different immunization approaches

M Vaine, S Wang and S Lu*

Address: Medicine, U. Massachusetts Medical School, Worcester, MA, USA
* Corresponding author

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## Background

Study and direct comparison of HIV-1 Env specific antibody responses elicited by HIV vaccines can provide useful information to identify vaccine candidates in early stage trials with greater potential of providing a protective immune response. With the goal of describing qualitative differences in humoral responses elicited by disparate HIV vaccine delivery approaches, we evaluated serum samples from three independent trials: HVTN 041, a recombinant protein based vaccine; HVTN 203, a combination canarypox prime plus protein boost vaccine, and DP6-001, a DNA prime plus protein boost vaccine.

## Methods

Humoral responses elicited by each vaccine trial were evaluated by ELISA for endpoint binding titer against a heterologous clade B antigen JR-FL and evaluated for antibody specificity using overlapping linear peptides and mAbs in a pseudoviral based competitive binding assay. Neutralizing specificity was evaluated against model clade B isolates in a pseudoviral system.

## Results

We determined that binding titers are not indicative of the domain specificities or neutralizing activities of the sera being generated through immunization. Analysis of antibody specificity indicated that all three trials elicited high titers of antibodies targeted to the V3 loop and co-receptor binding site of the HIV envelope. However, antibodies targeted to the CD4 binding domain were elicited significantly more frequently and in higher titer in individuals from the DP6-001 trial. Additionally, the presence of these CD4 binding site specific antibodies correlated with increased neutralization breadth against model clade B isolates.

## Conclusion

In summary, this study confirmed in human volunteers that a DNA prime-protein boost regimen is highly capable of eliciting antibodies responses against key epitopes on HIV-1 Env. *HVTN041 and HVTN203 sera were kindly provided by HVTN Ancillary Study Group