PHASE 1 TRIAL OF CAP256V2LS AND VRC07-523LS ANTIBODIES AMONG WOMEN IN SOUTH AFRICA

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BACKGROUND

- Young women in sub-Saharan Africa continue to bear a high burden of HIV infection.
- Combination anti-HIV monoclonal antibodies are a potential HIV prevention technology that may overcome adherence challenges of daily oral pre-exposure prophylaxis.

METHODS

- We evaluated the safety, pharmacokinetics and neutralization activity of CAP256V2LS alone and in combination with VRC07-523LS in 42 young HIV-negative women in Durban, South Africa.
- Groups 1 and 2 were open-label and CAP256V2LS was administered at 5mg/kg and 10mg/kg intravenously; and 5mg/kg, 10mg/kg and 20mg/kg subcutaneously.
- In Group 3 participants were randomized to receive a combination of CAP256V2LS and VRC07-523LS at 10mg/kg and 20mg/kg subcutaneously co-mixed with a recombinant human hyaluronidase, ENHANZE™ drug product (EDP) .
- Neutralizing activity was measured using env-pseudotyped viral particles in the TZM-bl assay.
- A quantitative electrochemiluminescence sandwich immunoassay was performed to determine antibody concentrations.

RESULTS

Safety Summary

- There were no serious adverse events or dose-limiting toxicities.
- Commonly reported symptoms following intravenous administration were headaches [7/8 (88%)] and nausea [4/8 (50%)].
- Commonly reported symptoms following subcutaneous administration were headaches [31/34 (91%)], chills [25/34 (74%)] and malaise/fatigue [19/34 (56%)].
- Adverse events included transient lymphocytopenia [8/42 (19%)], proteinuria [9/42 (21%)], elevated aspartate aminotransferase [10/42 (24%)] and alanine aminotransferase [5/42 (12%)].

CAP256V2LS and VRC07-523LS administered subcutaneously alone and in combination, with recombinant human hyaluronidase was **safe** and **well tolerated**, with **detectable** antibody concentrations up to 6 months post administration.

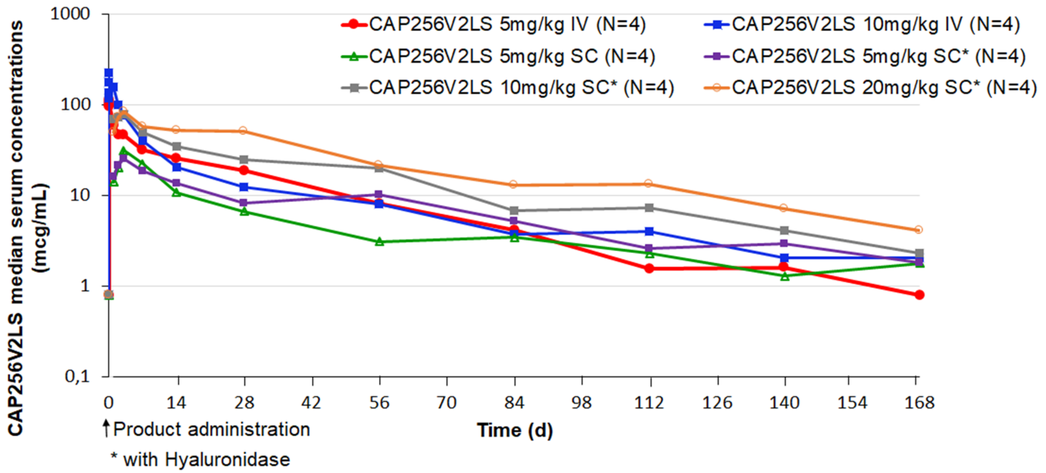

Figure 1:
Observed CAP256V2LS median concentrations following 5mg/kg and 10mg/kg intravenously; 5mg/kg subcutaneously without EDP; 5mg/kg, 10mg/kg and 20mg/kg subcutaneously with EDP through 168 days

RESULTS

Pharmacokinetic Summary

- At 6 months, the median serum concentration of CAP256V2LS and VRC07-523LS in participants who received 20mg/kg, was 6µg/mL and 26µg/mL respectively.
- Overall, the estimated half-life was 43 days for CAP256V2LS and 66 days for VRC07-523LS.
- Neutralization data showed that both antibodies retained their functional activity post-administration

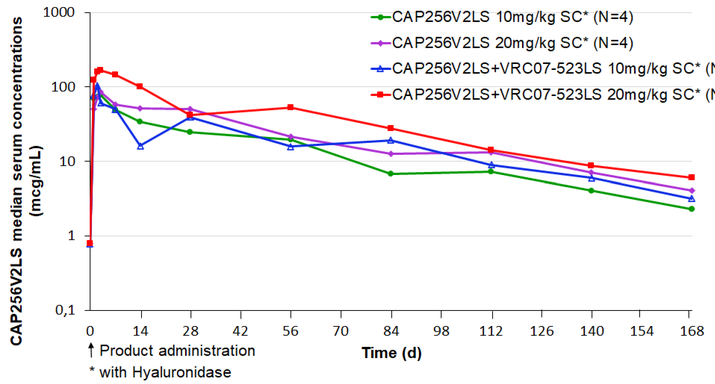

Figure 2:
Observed CAP256V2LS median concentrations following 10mg/kg and 20m/kg subcutaneously alone and in combination with VRC07-523LS

Conclusions

CAP256V2LS is one of the most potent antibodies described to date and in combination with VRC07-523LS is predicted to provide significant coverage of global HIV strains. These data support further assessment in larger clinical studies

Acknowledgements

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