GENETIC IDENTITY AND BIOLOGICAL PHENOTYPE OF EARLY TRANSMITTED FOUNDER HIV-1 VIRUSES

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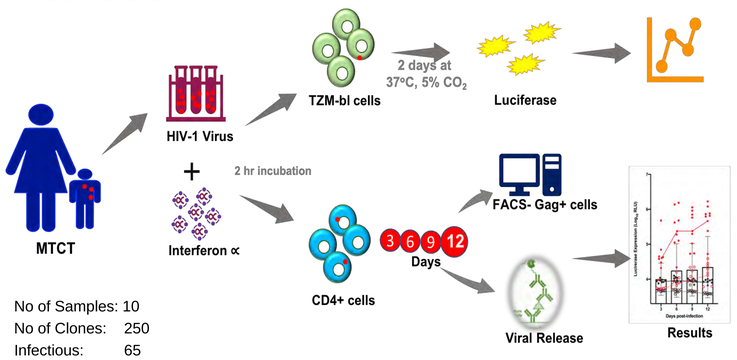
Objectives

1) **Identification of TF viruses** from recently infected individuals and to characterize them at **genetic and phenotypic level** (Co-receptor usage, response to Maraviroc).
2) To determine the **sensitivity of TF viruses to Interferon alpha** and their productivity during the course of infection.

Highlights

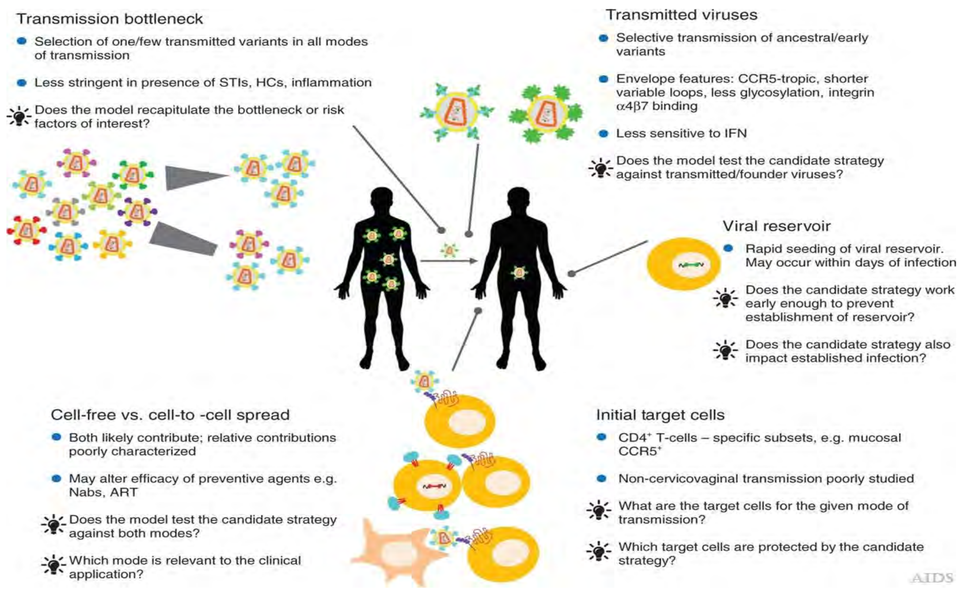
- **shorter variable loops** and **fewer PNGs** are unique characteristics of TF variants.
- TF viruses utilize CXCR6 co-receptor along with CCR5 for infection.
- **Acute Envs are resistance** to neutralizing antibodies than chronic Envs.
- TF viruses are more **resistant to IFN** and were **higher infectivity** than NT variants.
- TF viruses release an **excess amount** of viral particles than NT viruses.

Methods



No of Samples: 10
No of Clones: 250
Infectious: 65

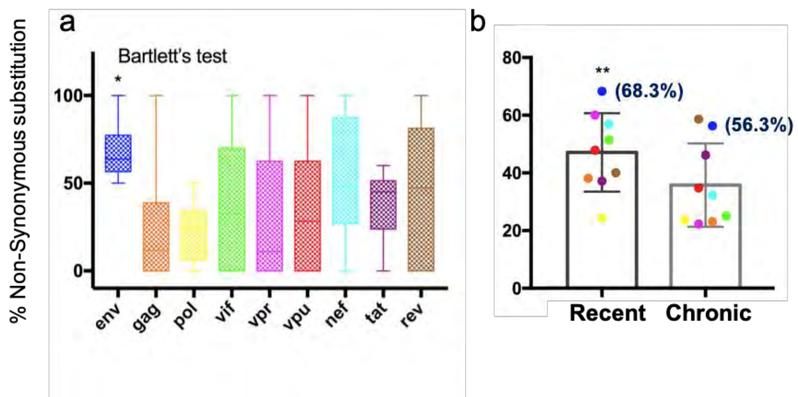
Background



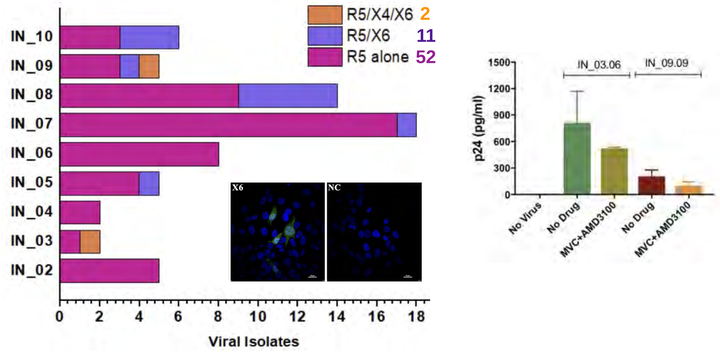
Schematic representation of HIV-transmission biology

Results

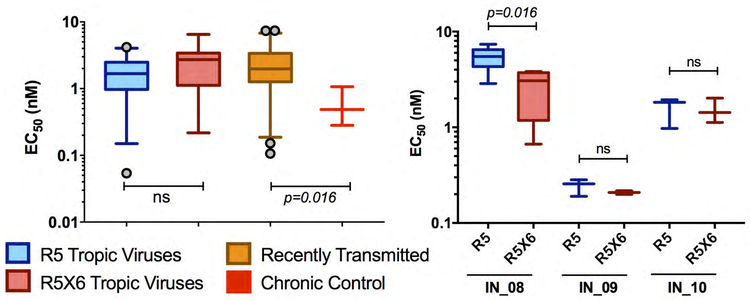
Non-synonymous amino acid substitution were found higher in recently Transmitted Viruses, particularly in the *env.*



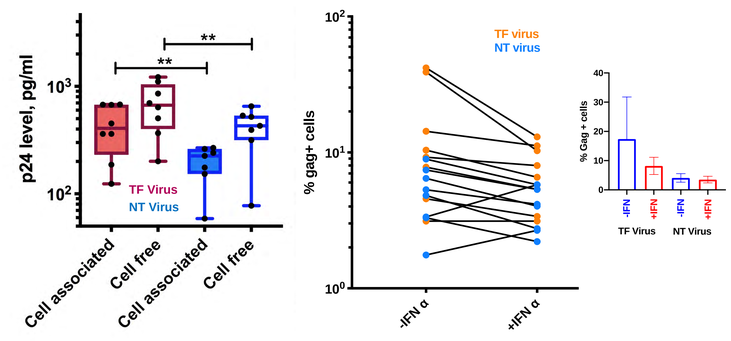
Usage of CXCR6 co-receptor along with CCR5 at the early stages of infection.



Amount of MVC required to inhibit half of the R5X6 Viruses was found higher than that required for R5-dependent viruses.



TF viruses are resistant to interferon alpha and produce more viral particles during the near moment of transmission.



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