Centre de recherche CHU Sainte-Justine
Le centre hospitalier universitaire mère-enfant

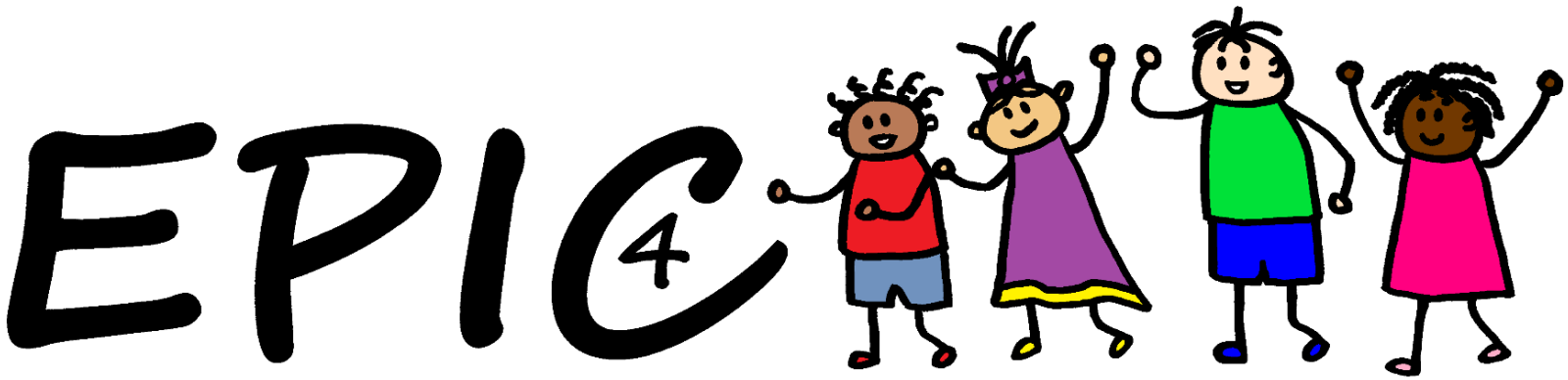
Université de Montréal

Genotyping of HIV-1 isolates infecting children and adolescents with undetectable viral load under antiretroviral therapy

Madeleine Aby Diallo[1,2], Doris G. Ransy[1], Fatima Kakkar[3,4], Jason Brophy[5], Lindy Samson[5], Ari Bitnun[6], Stanley Read[6], Michael T. Hawkes[7], Hugo Soudeyns[1,2,3,4], EPIC[4] Study Group.

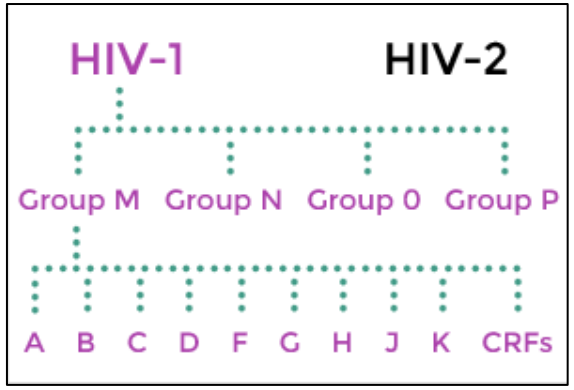
1.Unité d'immunopathologie virale, Centre de recherche du CHU Sainte-Justine; 2.Département de microbiologie, infectiologie et immunologie, Faculté de médecine, Université de Montréal; 3.Centre d'infectiologie mère-enfant, Centre de recherche du CHU Sainte-Justine; 4.Département de pédiatrie, Faculté de médecine, Université de Montréal; 5.Children's Hospital of Eastern Ontario, Ottawa; 6.Hospital for Sick Children, Toronto; 7.Department of Pediatrics, University of Alberta, Edmonton.

I have no conflict of interest to disclose



INTRODUCTION

- The genetic diversity of HIV-1 is a major obstacle to prevention and cure.
- Group M, which is responsible for the AIDS pandemic, is subdivided into 9 subtypes and many more recombinant forms (CRF).



- The Early Pediatric Initiation: Canada Child Cure Cohort (EPIC[4]) regroups 228 children vertically infected by HIV-1 and under antiretroviral therapy (~70% of all vertically infected children in Canada).
- We studied (1) the size of the viral reservoir at different time points and in different cell subsets and (2) the presence and level of markers of immune activation, tissue inflammation, microbial translocation and endothelial dysfunction.

Knowledge of HIV clade is important as it may influence HIV outcomes such as levels of viremia, disease progression and antiretroviral drug resistance.

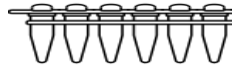
OBJECTIVE: Genotyping of HIV-1 isolates infecting 15 of the 73 participants of the EPIC[4] study whose subtype remained unknown.

EXPERIMENTAL APPROACH

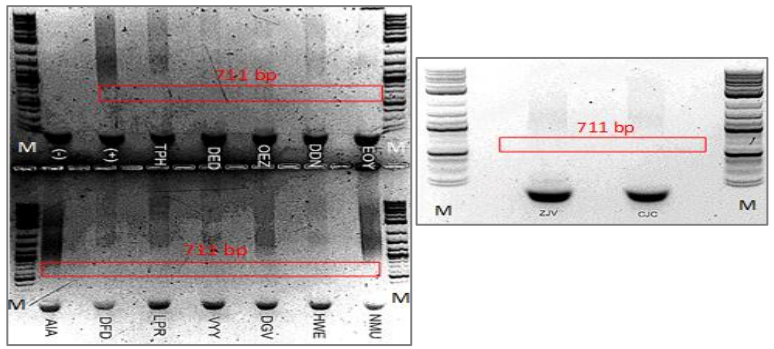
Gag gene amplification (nested PCR)

PBMCs of 15 participants

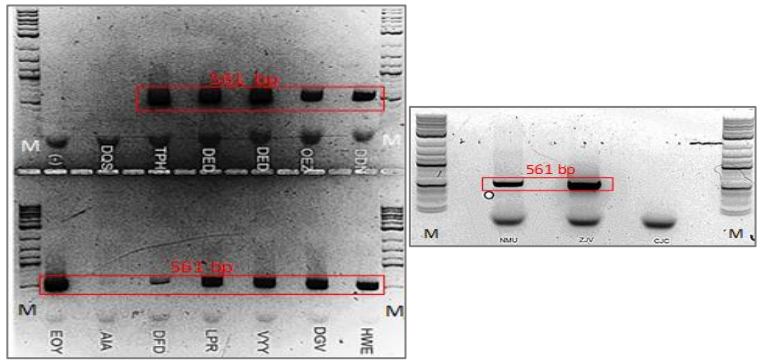
PK cell lysis



1st primers :
P17OUT1 and P17OUT2

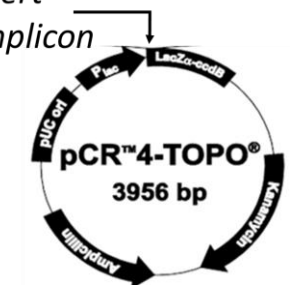


2nd primers :
P17IN1 and P17IN2



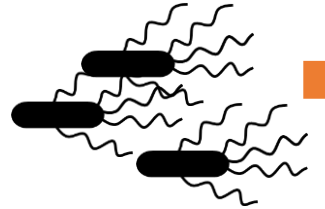
Cloning

Insert amplicon



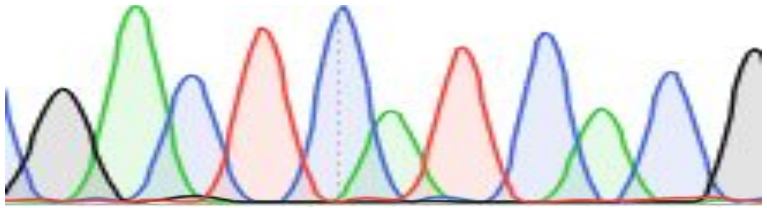
Transformation

Competent *E. Coli*

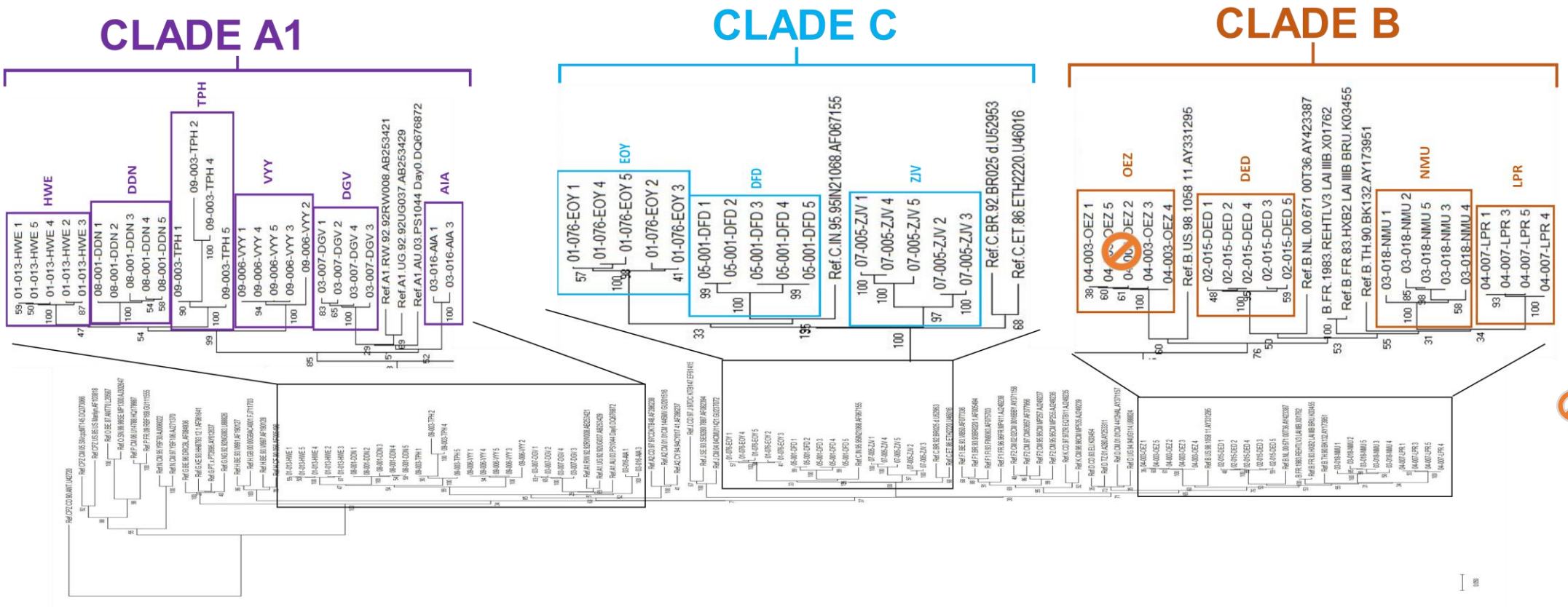


Vector Extraction

SANGER SEQUENCING



PHYLOGENETIC ANALYSIS



CONCLUSIONS

Genotyping was successful in **12 of 15 participants.**

OEZ, who could be infected by a recombinant virus, presented the lowest proportion of CD4+ T cells (19%; Avg:36%), compatible with the fact that this was the only participant whose viremia remained detectable under cART.

The **high prevalence of non-B subtypes** our study group (75%) is consistent with the ethnic origin of study participants.

The increase of non-B infections in previously subtype B dominant regions such as Canada and Europe highlights the need to **better understand the impacts of different HIV subtypes on the course of perinatal HIV infection**.

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Fonds de la Recherche en Santé du Québec

International AIDS Society
Stronger Together

CANFAR
CANADIAN FOUNDATION FOR AIDS RESEARCH | FONDATION CANADIENNE DE RECHERCHE SUR LE SIDA

EPIC 4

the CTN
CIHR Canadian HIV Trials Network

le Réseau
Réseau canadien pour les essais VIH des IRSC

Madeleine Aby Diallo, B.Sc.
514 345-4931 ext. 3908
madeleine.aby.diallo@umontreal.ca
www.epic4.ca