Reviewer's report

Title: HIV-1 subtype and viral tropism determination for evaluating antiretroviral therapy options: An analysis of archived Kenyan blood samples.

Version: 2 Date: 14 September 2009

Reviewer: Stuart Ray

Reviewer's report:

Major Compulsory Revisions:

1. The authors have superficially addressed all of the specific concerns in the prior review, but they have not addressed the general concern about evidence-based conclusions. The revised conclusions (from the abstract) are as follows (my numbering):

"i. Prevalence of recombination among this population was low.
ii. Dual co-receptor usage was observed in minor viral populations in two patients.
iii. In evaluating treatment options with novel targets, determination of HIV subtypes and viral tropism would be recommended before commencement of therapy for better clinical outcomes.
"

Statement (i) is supported by the data, except that the word "population" should be replaced with "sample".

Statement (ii) is weak, since co-receptor usage was not formally tested, it was only inferred from sequence data (as noted in prior review).

Statement (iii) is not supported by the current manuscript at all. How were subtype or tropism shown to be relevant for therapeutic decision-making?

2. On page 8, paragraph 2 ends with: The scale-up of ART "will eventually change evolutionary lineages among prevalent HIV-1 subtypes." This statement is confusing, but could be replaced with "This is likely to resulting in increasing prevalence of resistance."

3. On page 9, paragraph 2 ends with: "More clones and use of more sensitive methods such as allele-specific PCR and single-genome amplification, would be ideal." This is untrue. The problem is not an issue of sensitivity, but of the relevance of the assay. For example, allele-specific PCR is useless for testing tropism, because tropism is a phenotype based on multiple dispersed amino acids in Env. Rather, a biological assay would be needed.
**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests