Reviewer's report

Title: DR_SEQAN: a PC/Windows-based software to evaluate drug resistance using human immunodeficiency virus type 1 genotypes

Version: 5 Date: 17 February 2006

Reviewer: Klaus Korn

Reviewer's report:

General

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

none

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

none

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Discretionary Revisions (which the author can choose to ignore)

As already mentioned in the first review, I would suggest that the authors reconsider the handling of RT insertions around aa69. Currently, only SS, SV and SA insertins are considered as conferring nucleotide resistance. However, in my set of test samples, I had one with a VA insertion and one with a 7-aa insertion that both show >20-fold reduced susceptibility to D4T, Abacavir and Tenofovir and 14- and 6-fold reduced susceptibility to DDI, which was not represented in the predictions by DR-SEQAN. In the Larder et al 1999 AAC paper, the spectrum of insertions described is also much broader than only the three that are considered here, although these 3 represent the majority of samples with insertions. Therefore, I would suggest to treat all RT 67-70 insertions (or at least all 2 amino acid insertions) equally with respect to the prediction of NRTI resistance.

What next?: Accept after discretionary revisions

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

I declare that I have no competing financial interests. However, since I was involved in the development of another interpretation system for HIV drug resistance that is freely available via the internet (geno2pheno, accessible at www.genafor.org) and since I am a member of the society supporting this service (Genafor e.V.), this may be interpreted as a "non-financial competing interest" in relation to this paper.