Figure 2. Tests for Drug Selection When Considering a Change in Treatment Regimen

Virologic Failure or Suboptimal Virologic Suppression

Failed INSTI treatment

HIV-1 Coreceptor Tropism
(if a CCR5 antagonist is being considered)

CXCR4 detected

CCR5 antagonist unlikely to be effective

CXCR4 not detected

Consider CCR5 antagonist (maraviroc)

HIV-1 Genotype

HIV-1 phenotype if >2 virologic failures or complex mutational pattern

Suitable N(t)RTI(s)/NNRTI/PI identified

HLA-B*5701 Typing
(if abacavir is being considered)

Select new antiretroviral regimen containing ≥2 active drugs from ≥2 classes

No resistance-associated mutations

INSTI may be effective; consider other causes of treatment failure

Resistance-associated mutations

Continued therapy with failed INSTI unlikely to be effective. Potential for cross-resistance should be considered when evaluating likelihood of response to an alternative INSTI.

Resistance testing is recommended for patients with viral loads >1,000 copies/mL; although testing may be unsuccessful in those with lower levels of viremia, it should be considered if the viral load is between 500 and 1,000 copies/mL. For patients with viral loads <1,000 HIV-1 RNA copies/mL, HIV-1 coreceptor tropism testing should be performed using proviral DNA. INSTI indicates inteGrase strand transfer inhibitor.

This figure was developed by Quest Diagnostics based on reference 1. It is provided for informational purposes only and is not intended as medical advice. A physician’s test selection and interpretation, diagnosis, and patient management decisions should be based on his/her education, clinical expertise, and assessment of the patient.