The emergence and transmission of antiretroviral (ARV) drug resistance is a concern for people living with human immunodeficiency virus (HIV): it is associated with treatment failure, and it is important to continue to monitor the resistance profile of the virus as a whole and the genetic barrier to the development of resistance to various ARVs.

The overall prevalence of HIV-1 drug resistance has been declining in the United States (US), although this varies from state to state based on drug dispensing practices. This part of the paper was written to monitor and update the prevalence of HIV drug resistance and the genetic barrier to resistance in the United States.

**INTRODUCTION**

- The efficacy and safety of darunavir (DRV) have been demonstrated in clinical trials for both the once-daily (QD) and twice-daily (BID) dosing regimens. - DRV boosted with ritonavir (DRV/r) was approved in the US for BID dosing.

**METHODS**

- Clinical samples: From patients with known ARV treatment experience (study samples) and from patients with unknown ARV treatment experience (commercial samples).

- Phenotypic PI resistance was defined by a fold change (FC) in 50% survival of at least 20.

**OBJECTIVE**

- To evaluate DRV and the PI ritonavir (DRV/r) phenotypic resistance profiles among clinical samples and from commercial sources.

**RESULTS**

- A total of 45,708 clinical samples were included in the analysis.

- Among all samples, the proportion with 0 DRV RAMs was 81.5% in 2010 and 94.1% in 2015, and the proportion with ≥3 DRV RAMs was 2.0% in 2010 and 1.9% in 2015 (Figure 2A).

- The most common primary PI RAM, L33F, was identified in 38.2% of samples in 2010 and 22.5% in 2015 (Figure 3A).

**DISCUSSION**

- The low prevalence of DRV RAMs observed in this analysis is consistent with previous studies.

**CONCLUSIONS**

- The low prevalence of DRV RAMs observed in this analysis is consistent with previous studies.

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