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(57) Abstract :
ABSTRACT: Title: A Diagnostic Kit for the Detection of Latent HIV-1 Infections Using Patient Blood Samples The present disclosure proposes a clustered regularly interspaced short palindromic repeats (CRlSPR)-based diagnostic kit (100) that detects latent HIV-1 infections using patient blood samples. The CRlSPR-based diagnostic kit (CHIKit-SA) (100) comprises a genomic DNA isolation kit (102), a CRISPR-Cas9 system (104) and an agarose gel electrophoresis unit (106). The proposed CRlSPR-based diagnostic kit (100) accurately detects latent HIV-1 genome integrated into the host genome. The proposed CRlSPR-based diagnostic kit (100) identifies latent viral reservoirs and viral genome-containing host cells. The proposed CRlSPR-based diagnostic kit (100) enables in early identification of individuals with latent infections, facilitating informed treatment decisions, monitoring the effectiveness of HAART and preventing viral rebound and transmission. The proposed CRlSPR-based diagnostic kit (100) re-activates viral replication so as to effectively treat latent HIV-1 infections.

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