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Two different developments assays to measure HIV-2 Viral load

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Human Immunodeficiency Virus, type 1/2 (HIV-1/HIV-2) are both lentivirus that cause acquired immunodeficiency syndrome (AIDS). Unlike HIV-1 virus, the HIV-2 is distantly related to HIV-1, the virus responsible for the global AIDS pandemic. Although HIV-1 and HIV-2 have similar transmission routes and can cause immunodeficiency, patients infected with HIV-2 have lower viral loads than those infected with HIV-1. Therefore, up to date, an HIV-2 viral load assay (or diagnostic test) does not exist. Accordingly, our aim was to develop a sensitive viral load assay utilizing digital PCR to quantify HIV-2 RNA in plasma and to validate it for clinical use. A real-time polymerase reaction (RT-PCR) assay is used that amplifies HIV-2 (LTR region) in parallel with a whole virus internal control; derived from a Mouse Hepatitis Virus (M gene), to monitor the assay performance. In addition a reference of viral stock of HIV-2 is used to report the absolute number of HIV-2 RNA in International Units (IU). The same method was repeated using the stock HIV-2 only, utilizing the digital PCR to validate the viral load assay. Our assay was able detect as low as 8 IU/mL from patient samples which is below the reported minimum level of HIV-2 detection using standard protocols. Our results also show high specificity to HIV-2 with validated reproducible results.

Biography

Ibtehaj S Al-Sharif has completed her Bachelor's degree in Biochemistry from the King Saud University, KSA. She is currently a Research Assistant at the Immunocompromised host department at KFSH&RC. She has 6 publications to her credit.

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