

Evaluation and Routine Use of the Luminex MultiCode-RTx HSV 1 and 2 Kit for Blood in a Local Hospital

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Background/Objective

Herpes Simplex Virus (HSV) is a double-stranded DNA virus which exists in either a lytic or latent phase of infection. Polymerase chain reaction (PCR) has been pioneered as a technology to rapidly and accurately detect and quantify HSV DNA from clinical specimens. The quantification of herpes simplex virus (HSV) DNA from the peripheral blood is often used to evaluate patients suspected of having disseminated HSV infection. MultiCode products from Luminex offer a flexible platform for both real-time and multiplex PCR-based assays. MultiCode products are based upon the unique patented MultiCode bases, isoC and isoG. This property enables site-specific incorporation of the isobases during amplification. The Luminex MultiCode-RTx HSV1&2 PCR kit was FDA-cleared for detection and typing of HSV in vaginal lesion swabs from symptomatic females. Here we describe the verification and our experience at our hospital with the off-label use of MultiCode-RTx kit to detect HSV in blood.

Method

Verification was performed using clinical specimens and proficiency testing panels. Laboratory-developed, real-time HSV PCR (Berrington WR. et al. Clin Infect Dis., 2009; 49(9)) was the major reference method

Result

The MultiCode-RTx HSV kit demonstrated limit of detection (LOD) of 1-10 copies per reaction in serum. Analytical accuracy and precision were excellent, and specificity was 100% compared with our reference method. Sensitivity was 95%, one specimens missed by MultiCode-RTx in 50 blood specimens .

Conclusion

The Luminex MultiCode-RTx-HSV1&2 PCR kit could serve as an useful alternative to our laboratory-developed real-time HSV PCR for detection and typing of HSV types 1 and 2 in blood specimens received by diagnostic laboratories.