

# HHV-8 seroconversion in Kenyan women by enzyme-linked immunosorbent assay and immunofluorescence assay

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## Abstract:

**Background:** Human herpesvirus 8 (HHV-8) antibody tests vary in reported sensitivity and specificity, depending on the population tested and the assay. **Objectives:** The purpose of this study was to compare the ability to detect seroconversion to HHV-8 in a cohort of HHV-8 seronegative female commercial sex workers in Kenya using three tests: HHV-8 viral lysate-based enzyme-linked immunosorbent assay (ELISA), an immunofluorescence assay for HHV-8 lytic antigens (IFA-lytic) and IFA for latent nuclear antigens (IFA-LANA). **Study design:** By ELISA, 16 women from a prospective cohort of commercial sex workers were identified as seroconverting to HHV-8. A total of 124 post-enrollment samples from these 16 women as well as the enrollment samples were tested for HHV-8 antibodies by all three assays to monitor seroconversion. **Results:** Of 16 women with apparent seroconversion by ELISA, 8 had a rise in IFA-lytic titers either concomitant with or prior to the first positive ELISA sample and no initial LANA by IFA. Five of the 16 women were IFA-LANA positive at entry, indicating prior infection with HHV-8. Three women had no evidence of seroconversion by either IFA-lytic or IFA-LANA and two of these three had increased ELISA reactivity concomitant with HIV-1 infection. **Conclusions:** Conversion from a negative to a positive ELISA result for HHV-8 antibody indicated seroconversion in only half of the study cohort of 16 women when IFA-lytic and IFA-LANA results were considered. The IFA-lytic assay was more sensitive than ELISA for early antibody responses. The IFA-LANA was positive in some women who had neither IFA-lytic nor ELISA antibodies suggesting it may be a marker for latent infections. Presumptive identification of incident HHV-8 infection by ELISA screening followed by IFA-lytic testing to confirm the positive test and IFA-LANA to rule out prior infection provides the most accurate documentation of HHV-8 seroconversion