

Efficient isolation of human immunodeficiency virus type 1 RNA from cervical swabs

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Abstract:

An efficient method for the isolation of human immunodeficiency virus type 1 (HIV-1) nucleic acids from dry cervical swabs was developed. HIV-1 gag and env were detected in 96% (25 of 26) and 81% (21 of 26), respectively, of the samples tested by PCR from HIV-1-seropositive women in a Kenyan cohort study. Eighty-eight percent of the swabs (22 of 25) were positive for gag RNA, and 85% (17 of 20) were positive for env RNA. Fewer than 1,000 copies of HIV-1 gag RNA were detected in four swabs in which a competitive quantitative PCR assay was used. The method described here may be useful for both qualitative and quantitative analyses of HIV RNA in mucosal secretions as well as amplification and cloning of full-length viral genes for functional studies.