Thesis title	DNA Amplification for the Detection of HIV-1 Proviral DNA in Blood Donors
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ABSTRACT

Reports of transmission of the HIV-1 from transfusion of blood screened for anti-HIV and p24 HIV antigen raised the concern of the safety of blood supply. To determine the capability to detect window period of HIV-1 infection, polymerase chain reaction (PCR), antigen and antibody tests were simultaneously tested in donor bloods from high prevalence area. Crude cell lysates were amplified in two step PCR. The modification included reducing the volume of the second PCR mixture and reducing of the denaturation temperature. All led to a simpler, sensitive, specific, and less expensive PCR more suitable for screening of blood donors.

Five percent (18 of 351) of blood samples were HIV-1 antibody positive and none was positive for p24 antigen. PCR proved its sensitivity in all seropositive subjects. No window period infection were detected by PCR in 333 seronegative blood donors after retesting of follow up specimens which had discordance results in initial sample. Although the prevalence of anti-HIV positive in blood donors of this study group is quite high, the chance that donors donating blood during the window period seem to be remote. However, the risk of transfusion mediated HIV infection in this area of high prevalence can not be either ruled out or accurately estimated. Further studies with more samples should be performed before risk of HIV transmission in anti-HIV negative blood donors can be accurately estimated.