

# Maternal human leukocyte antigen A\*2301 is associated with increased mother-to-child HIV-1 transmission.

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## Abstract

We examined associations between maternal human leukocyte antigen (HLA) and vertical human immunodeficiency virus type 1 (HIV-1) transmission in a perinatal cohort of 277 HIV-infected women in Nairobi. HLA class I genes were amplified by using sequence-specific oligonucleotide probes, and analyses were performed using logistic regression. Maternal HLA-A\*2301 was associated with increased transmission risk before and after adjusting for maternal viral load (unadjusted: odds ratio [OR], 3.21; 95% confidence interval [CI], 1.42-7.27;  $P = .005$ ;  $P_{corr} = 0.04$ ; adjusted: OR, 3.07; 95% CI, 1.26-7.51;  $P = .01$ ;  $P_{corr}$  is not significant). That maternal HLA-A\*2301 was associated with transmission independent of plasma HIV-1 RNA levels suggests that HLA may alter infectivity through mechanisms other than influencing HIV-1 load.