

Evidence for Efficient Vertical Transfer of Maternal HIV-1 Envelope-Specific Neutralizing Antibodies but No Association of Such Antibodies With Reduced Infant Infection.

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Source

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Abstract

: Little is known about the efficiency of vertical transfer of HIV-1-specific antibodies. Antibody levels in plasma from 60 mother-infant pairs near the time of birth, including 14 breast-feeding transmission pairs, were compared. The envelope-binding titers were strongly correlated ($r = 0.91$, $P < 0.0001$) and similar (1.4-fold greater in maternal plasma) between a mother and her corresponding infant as were the neutralizing antibody (Nab) levels ($r = 0.80$, $P < 0.0001$; 1.3-fold higher), suggesting efficient transfer. There was no significant difference in Nab responses between transmitting and nontransmitting mothers, although there was a trend for transmitting mothers to have higher HIV-1-specific Nabs.