Infected intrapartum

Inflammatory responses resulting in cytokine secretion

Foetal thymus

Excessive cellular activation with ↑neopterin; ↑β2-m; ↑sL-selectin and ↑IL-10

HIV-1 specific immune response; ↓GM-CSF

Th1-type cytokines at maternal-foetal interface (IL-10)?

Virus-host interactions

Foetal – developing innate and adaptive immunity

R5
Dendritic cell

Direct infection & release of virions

Budding occurs at membranes of multivesicular bodies enriched with MHC class II molecules. Virions degraded in lysosome or released after fusion with plasma membrane

R5
Macrophage

R5
Activated CD4+ T-cells

No HIV-1 specific responses but ↑neopterin; ↑β2-m; ↑sL-selectin (Trend with NVP: ↑CXCL12, ↑GM-CSF, ↑CCL5, ↓CCL3 levels)

Immune activation regulated by factors (immunosuppressive?)

Exposed uninfected

Infected intrapartum

Host genetic factors?

No measurable indication that naive T-cell population affected at birth by HIV-1 exposure or infection, peripheral proliferation or immune activation

Virus

Viral quasi-species

R5
X4

Host

Maternal (status)

Viral load
CD4+ T-cell count
Antibody/Th2-like bias of maternal immune system during pregnancy

Placental barrier

Th2-type cytokines at maternal-foetal interface (IL-10)?