Monocyte Derived Dendritic Cells and Immune Cells
Interaction of Free and Complement Opsonized HIV-1 with
Monocyte Derived Dendritic Cells and Immune Cells
in the Cervical Mucosa

Veronica Tjomsland did her PhD at the Department of Clinical and Experimental Medicine, Division of Molecular Virology, under the supervision of Professor Marie Larsson. The aim of this thesis was to understand more about HIV-1 pathogenesis, with focus on how HIV-1 interacts with the dendritic cells (DCs) and the initial HIV-1 infection of DCs and CD4+ T cells in cervical mucosa. We hope that the knowledge gained will contribute to the design of an effective vaccine or therapy in the future, which is urgently needed with more than 30 million people infected with HIV-1.

The interactions of HIV-1 with DCs and T cells were studied in culture and in a cervical tissue explant model. DCs and CD4+ T cells are the first cell types to come in contact with HIV-1 upon infection. HIV-1 takes advantage of the DCs and uses them for transportation to the lymph nodes where HIV-1 is transferred to its main target cells, the CD4+ T cells. Importantly, at the same time, the DCs present peptide antigens derived from the captured virions on their surface and activate specific T cell responses directed against HIV-1.

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