

HIV/AIDS**Reports from C. Lucianomontalvo and colleagues advance knowledge in HIV/AIDS**

2009 FEB 9 -- According to a study from the United States, "Mononuclear phagocytes (MP; monocytes, tissue macrophages, and dendritic cells) are reservoirs, vehicles of dissemination, and targets for persistent HIV infection. However, not all MP population equally support viral growth."

"Such differential replication is typified by the greater ability of placental macrophages (PM). as compared to blood borne monocyte-derived macrophages (MDM), to restrict viral replication. Since cytosolic protein patterns can differentiate macrophage subtypes, we used a proteomics approach consisting of surface-enhanced laser desorption ionization time-of-flight (SELDI-TOF), tandem mass spectrometry, and Western blots to identify differences between the uninfected and HIV-infected PM and MDM protein profiles linked to viral growth. We performed proteome analysis of PM in the molecular range of 5-20 kDa. We found that a SELDI-TOF protein peak with an m/z of 11,100, which was significantly lower in uninfected and HIV-infected PM than in MDM, was identified as cystatin B (CSTB). Studies of siRNA against CSTB treatment in MDM associated its expression with HIV replication. These data demonstrate that the low molecular weight placental macrophage cytosolic proteins are differentially expressed in HIV-infected PM and MDM and identify a potential role for CSTB in HIV replication," wrote C. Lucianomontalvo and colleagues.

The researchers concluded: "This work also serves to elucidate a mechanism by which the placenta protects the fetus from HIV transmission."

Lucianomontalvo and colleagues published their study in *Placenta* (Proteomic Analyses Associate Cystatin B with Restricted HIV-1 Replication in Placental Macrophages. *Placenta*, 2008;29(12):1016-1023).

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Keywords: United States, San Juan, HIV/AIDS, AIDS, Acquired Immunodeficiency Syndrome, Biotechnology, Blood Banking, Blood Safety, Blood-Borne Disease, HIV, Human Immunodeficiency Virus, Mass Spectrometry, Proteomics, Virology.

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