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Comparative infection of autologous primary T cells and monocytes derived DCs using cell-free virus preparation, viral biofilm, pseudotyped-virus or viral synapse

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HTLV-1 infected T cells and blood dentritic cells (DCs) can be found in HTLV-1 carriers. It is currently believed that T cell infection requires cell-cell contact, while DCs could also be infected with cell-free virus. However, a comparative study using different modes of viral preparation for infecting human primary autologous T and DC cells has not been performed. Supernatant from HTLV-1 chronically infected T cells, cell conjugates between HTLV-1 infected cells and target cells, or purified viral biofilm were used side-by-side to infect autologous human primary lymphocytes and monocytes-derived dendritic cells. To monitor the early steps of viral infection, we also used pseudotyped viruses carrying either the HTLV-1 or the VSV envelopes. Infection was then followed by flow cytometry, ELISA, immunofluorescence, real-time PCR and alu-PCR. Our first data show that, depending on the source of viruses, lymphocytes have distinct susceptibility to HTLV-1 infection. The impact of the viral source in the spread of HTLV-1 infection will be discussed.

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