Researchers Discover How HIV Binds to Dendritic ’Carrier’ Immune Cells

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Scientists haveidentified the precise protein on the surface of dendritic immune cells that HIVbinds to in order to gain entry, and the discovery could lead to thedevelopment of new antiretroviral agents that, for the first time, would attackHIV outside of its life cycle within CD4 cells, ScienceDaily reports.Responsible for prompting immune response in CD4 cells, dendritic cells arealso known as carrier cells. In the case of HIV, the virus invades the cell,which then spreads it to CD4s.

Researchers fromthe AIDS Research Institute IrsiCaixa published a paper in the open accessjournal PLOS Biology about their discovery of a protein called Siglec-1 that’s onthe surface of dendritic cells. Siglec-1 binds to what are known asgangliosides on HIV’s surface and thus help transmit more of the virus to CD4s.

In a lab setting,the researchers combined HIV with varying quantities of Siglec-1 and discoveredthat higher levels of the protein improved the dendritic cells’ capacity tocapture HIV, which then led to greater transmission of the virus into CD4cells. The scientists also found that inhibiting Siglec-1 prevented dendriticcells from capturing the virus, indicating that such inhibition may be aneffective aim for a future drug therapy.

For the studyabstract, click here.

To read theScienceDaily report, click here.