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Elevated HLA-A expression impairs HIV control through increased Natural Killer cell inhibition

HLA-A mRNA is expressed at differing levels in an allele-dependent manner. We show that higher HLA-A expression levels associate with poor HIV control in a manner that is reproducible across disease outcomes studied. We also show that higher HLA-A expression leads to enhance HLA-E expression on the cell surface, including on HIV infected cells, and propose that this in turn leads to greater inhibition of natural killer cells that express the HLA-E specific inhibitory receptor CD94/NKG2A. Antagonizing NKG2A and HLA-E interaction may be advantageous, perhaps in combination with other therapies against HIV.

Organized by

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