

Effect of Antibody-Dependent Intracellular Neutralization on Antigen-Presentation by Dendritic Cell

Dendritic cells are key antigen-presenting cells in the immune system. When dendritic cells are infected by viruses, they can signal to T cells by presenting viral antigens on MHC complexes. But cells that are penetrated by viruses which are bound by antibodies, can utilize TRIM21, an intracellular receptor for antibody Fc region, to mediate antibody-dependent intracellular neutralization. This results in viral clearance and the cell is no longer infected. To understand if dendritic cells that are rescued from infection can still signal to T cells after antibody-dependent intracellular neutralization, we compare the status of moDC (monocyte-derived dendritic cells) after infection by viruses or antibody-bound viruses. Infection of moDC by adenovirus results in the expression of viral genes (GFP) while infection of moDC by antibody-bound viruses show no expression of viral genes. However, like moDC that are infected by virus alone, moDC that underwent antibody-dependent intracellular neutralization still secreted more CXCL10. This suggest dendritic cells do continue to signal to T cells after antibody-dependent intracellular neutralization.

Keywords : Adenovirus, TRIM21, antibody-dependent intracellular neutralization, dendritic cell

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