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The innate immune cross talk between NK cells and eosinophils is regulated by the interaction of Natural Cytotoxicity Receptors with eosinophil surface ligands

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Previous studies suggested that the cross talk between NK cells and other cell types is crucial for the regulation of both innate and adaptive immune responses [1,2]. In the present study, we analyzed the phenotypic and functional outcome of the interaction between resting or cytokine-activated NK cells and eosinophils derived from non-atopic donors. Our results provide the first evidence that an NCR/NCR ligand-dependent cross talk between NK cells and eosinophils may be important to up regulate the activation state and the effector function of cytokine-primed NK cells. This interaction also promotes the NK-mediated editing process of DCs that influences the process of Th1 polarization. In turn, this cross talk also resulted in eosinophil activation and acquisition of the characteristic features of antigen presenting cells. At higher NK/eosinophil ratios, cytokine-primed NK cells were found to kill eosinophils via NKp46 and NKp30, thus suggesting a potential immunoregulatory role for NK cells in dampening inflammatory responses involving eosinophils.

References

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Keywords

NK cells, eosinophils, dendritic cells, Natural Cytotoxicity Receptor (NCR), cross talk, cytotoxicity