Title: Allergic inflammatory cells use different GATA factors to activate CCR3 transcription

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Body: CCR3 is a chemokine receptor initially thought specific to eosinophils but subsequently identified on Th2 cell subsets and mast cells. The prominent allergic inflammatory cells, eosinophils, mast cells, and Th2 cells exhibit preferential expression of GATA-1, GATA-2, and GATA-3, respectively. We have previously demonstrated GATA-1-mediated CCR3 transcription with functional mapping of a GATA element in the regulatory region of CCR3 gene. Here, we investigated whether GATA factors other than GATA-1 play a major role in CCR3 transcription in these cell types. Knockdown assay showed that GATA-2 siRNA reduced the CCR3 reporter activity in EoL-1 eosinophilic cells, and GATA-1 and GATA-2 siRNAs reduced in EoL-1 and HMC-1 mast cells, while GATA-3 siRNA suppressed it in Jurkat T cells. In parallel, EMSA and ChIP analyses revealed DNA binding to and occupancy on the functional GATA element of different GATA factors. These results highlight that different GATA factors participate in CCR3 transcription in a cell type-specific fashion among the major allergic inflammatory cells.