

## Uptake of CCR7 by KIR2DS4+ NK cells is induced upon recognition of certain HLA-C alleles: implication of activating KIRs in haploidentical HSCT

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Alloreactive NK cells have been shown to play a crucial role in the successful therapy of high risk acute leukemias in the haplo-HSCT setting (1-4).

Recently, we have shown that in KIR/KIR-ligand mismatched haplo-HCT a remarkable advantage may exist in selecting KIR2DS1<sup>+</sup> donors to be used in C2<sup>+</sup> recipients, not only for their killing capability against recipient's leukemic cells, but also for their ability of killing allogeneic DC and T cell blasts, thus preventing GvHD and graft rejection.

Moreover we have shown that, as previously described for KIR2DS1, also KIR2DS4, another activating KIR, may induce acquisition of CCR7 and migratory properties by human NK cells interacting with B-EBV infected cells expressing specific HLA molecules. Importantly, this *de novo* CCR7 expression, occurring by a mechanism of trogocytosis, may represent a mechanism by which alloreactive KIR2DS1<sup>+</sup> or KIR2DS4<sup>+</sup> NK cells can migrate to lymph nodes, kill recipient's DCs and prevent priming of alloreactive donor's T cells as well as induction of graft-versus-host disease (GvHD).

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### Keywords

Human NK cells; Activating Killer Ig-like receptors; CCR7.