GM-CSF modulates the migratory phenotype of vaccine-induced T cells by enhancing CXCR3 expression

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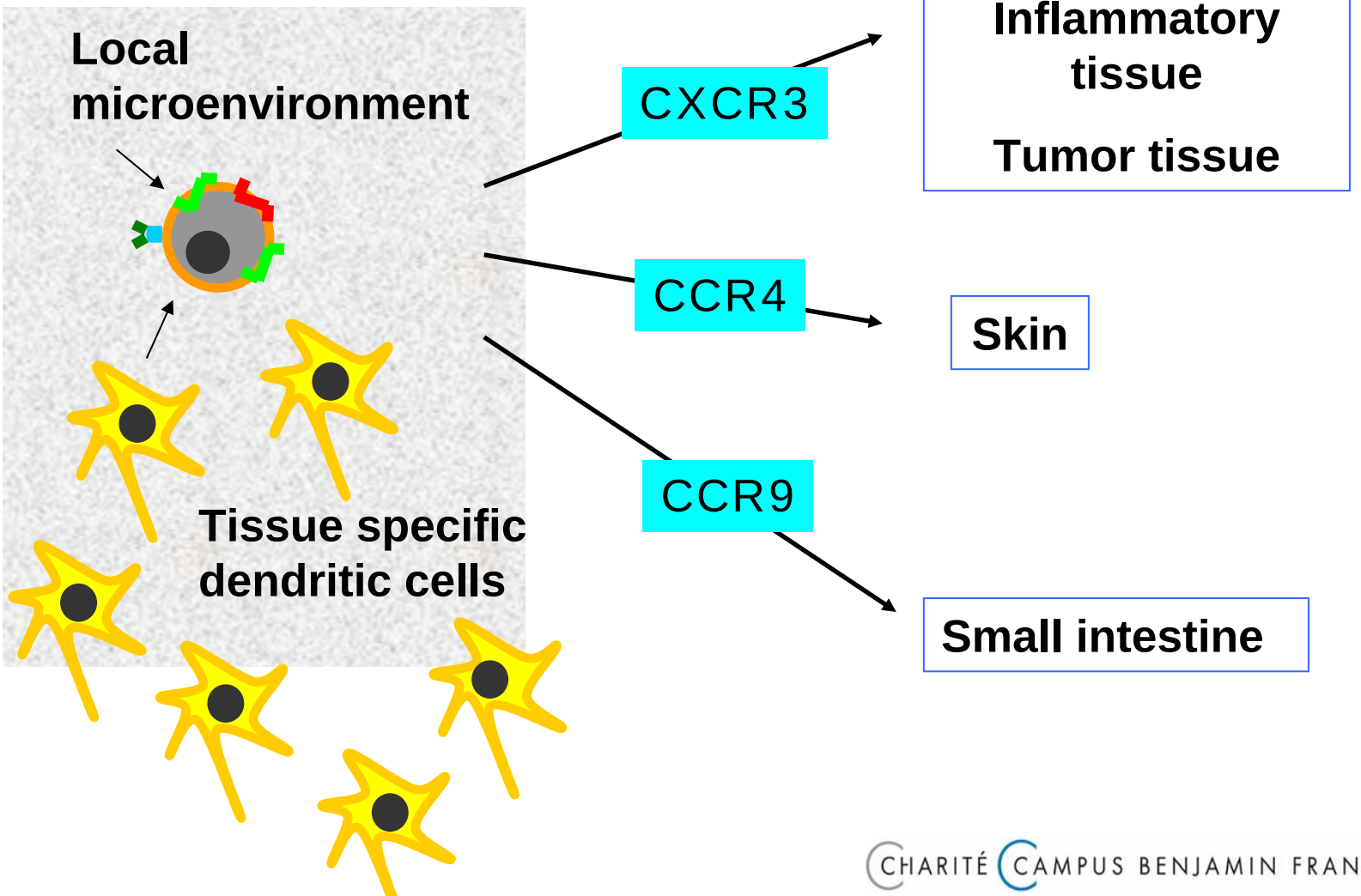
Background

Selective chemokine receptor



Aim of the study

Analysis of

- **Expression of chemokine receptors CXCR3 and CCR4 on vaccine-induced T cells.**

- **Influence of GM-CSF as vaccine adjuvant on chemokine receptor expression.**

Materials & Methods

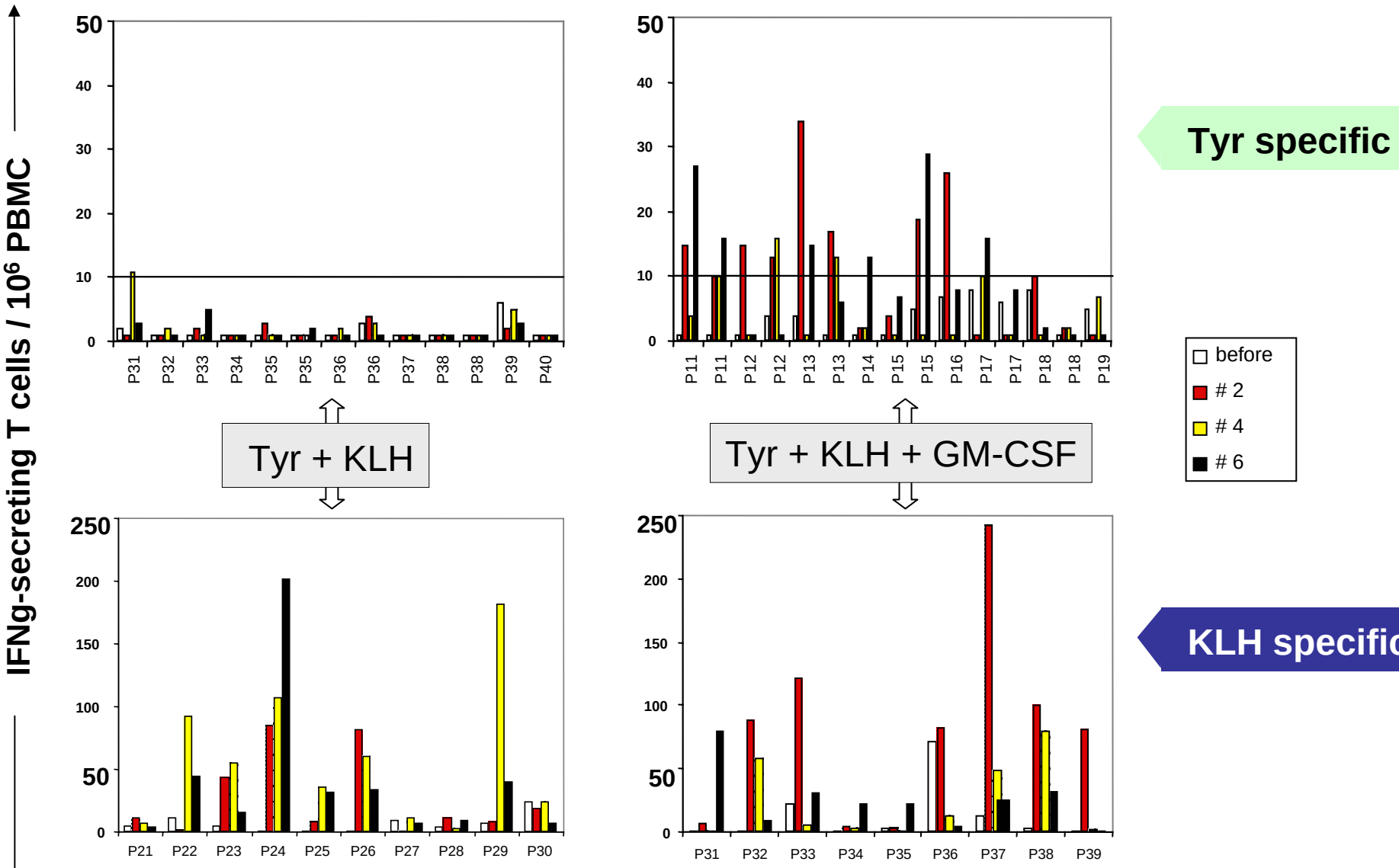
- **<u>Patient samples:</u>** stage III/ IV melanoma

  2 cohorts
  - **1) Tyrosinase peptide + KLH + GM-CSF**
  - **2) Tyrosinase peptide + KLH**

- **T cell response assessment**

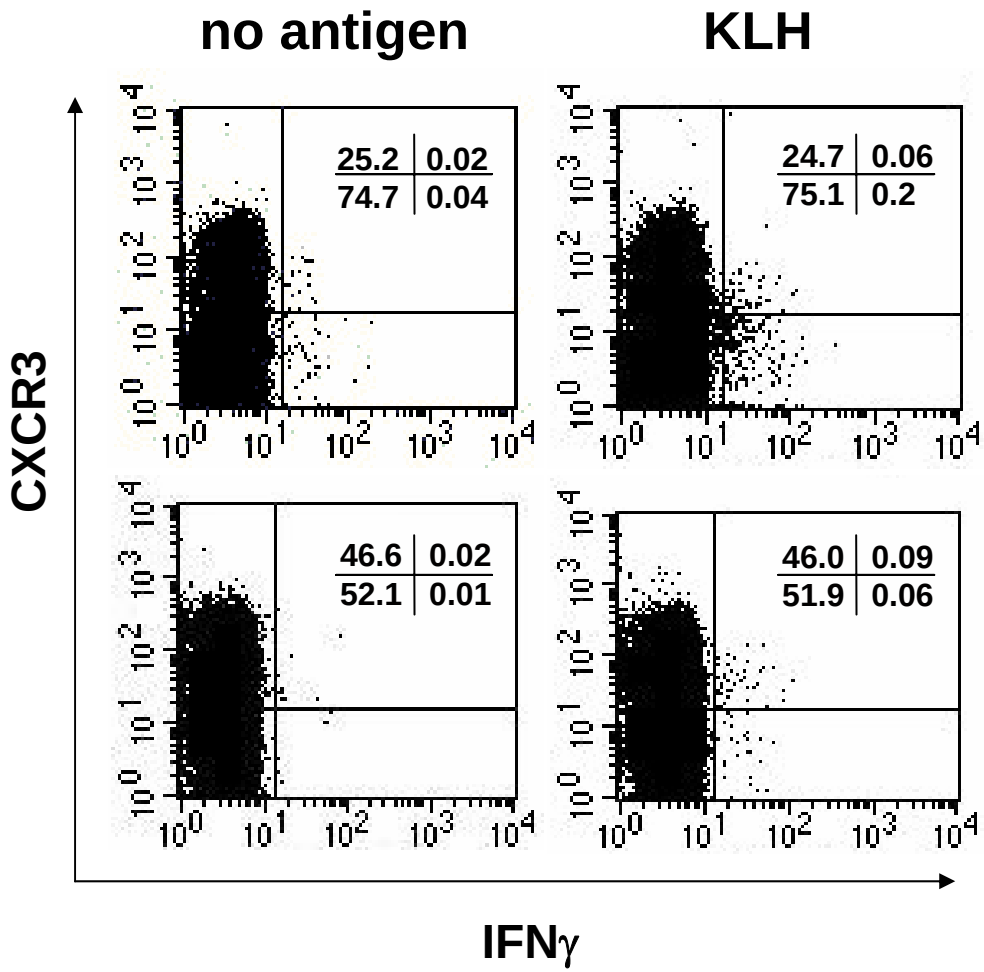
  by IFNγ flow cytometry analysis

Phase I trial of tyrosinase peptide with adjuvants GM-CSF and KLH



Scheibenbogen et al. 2003

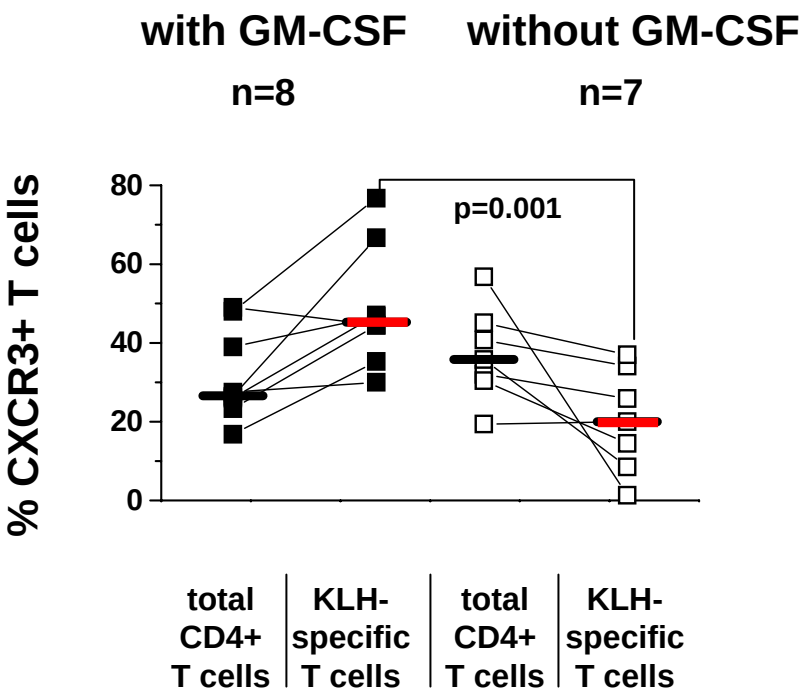
CXCR3 expression on KLH-specific T cells

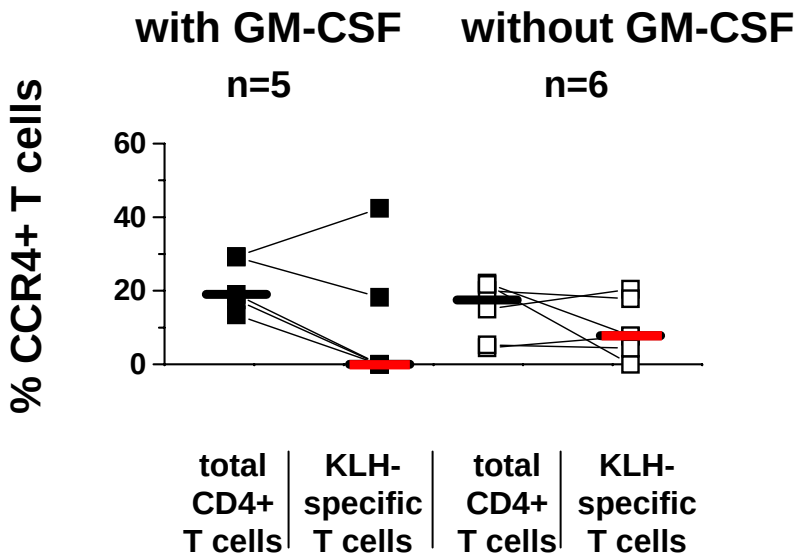


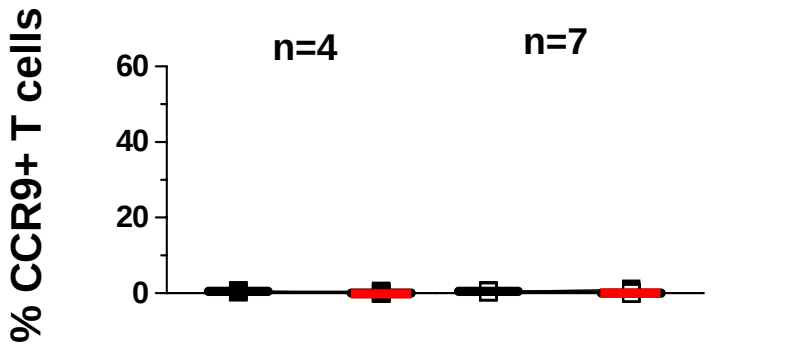
Tyr + KLH cohort

Tyr + KLH + GM-CSF cohort

CXCR3, CCR4 and CCR9 expression on KLH-specific T cells







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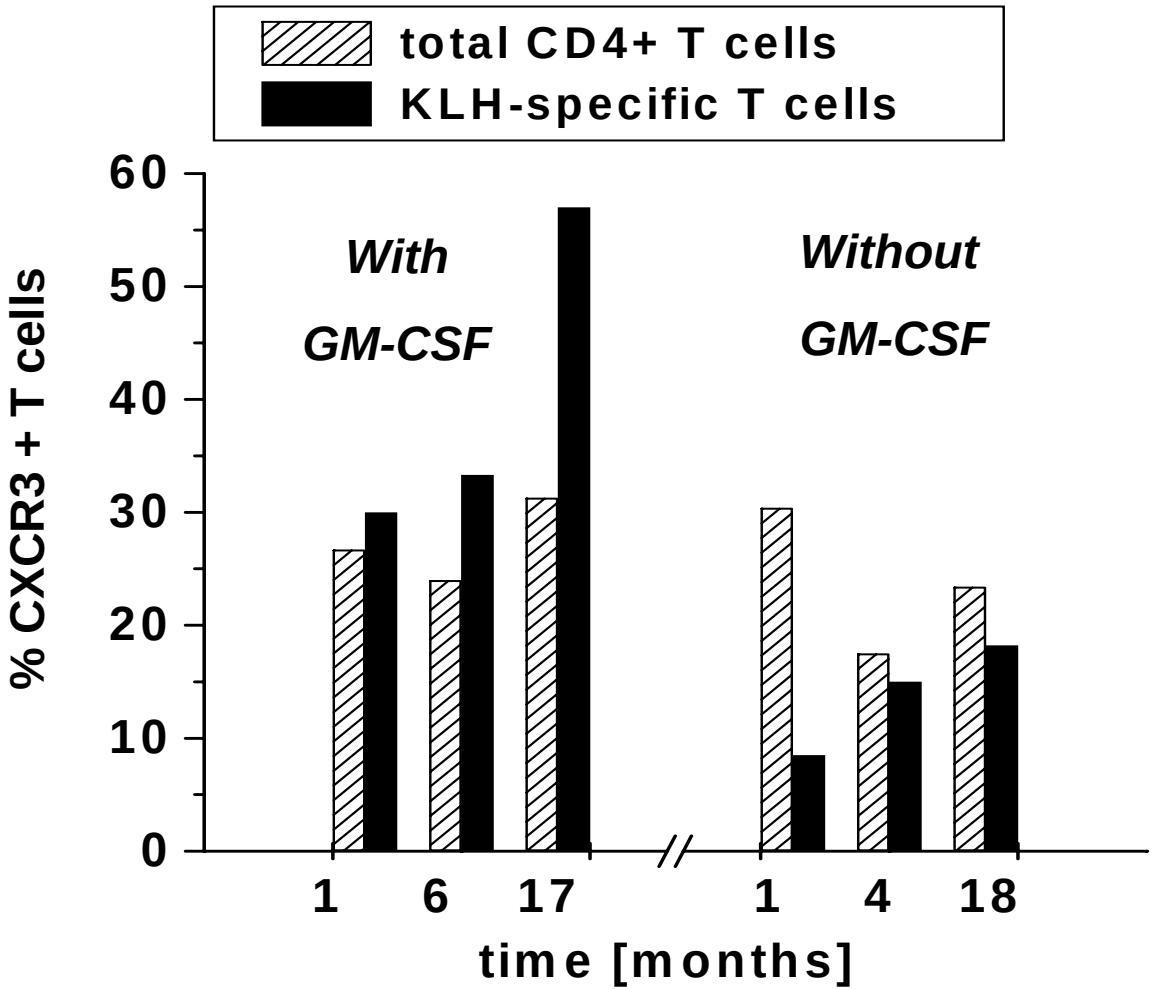
Follow up of CXCR3 profile of KLH-specific T cells



Summary

- **These results show for the first time in humans that it is possible to modulate chemokine receptor expression on T cells generated by vaccination by modifying the local vaccine milieu.**

- **Immunization protocols that induce T cells expressing CXCR3 may be of considerable value for improvement of immune therapy strategies.**

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