

ESR-11: Resetting Immunological Memory

2nd EUtrain kick-off meeting

22.09.2013 – 23.09.2013

Patrick Maschmeyer

Andreas Radbruch Laboratory

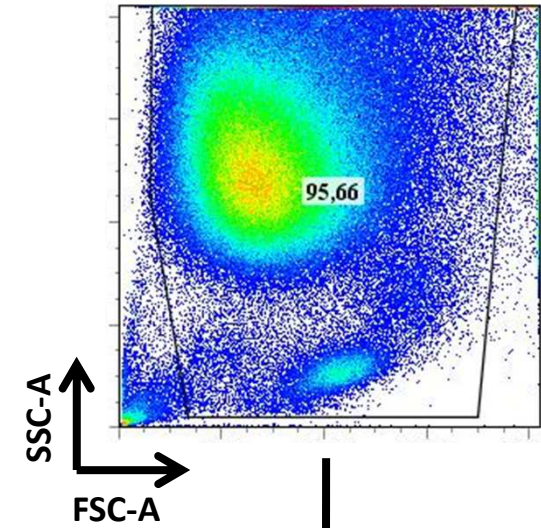
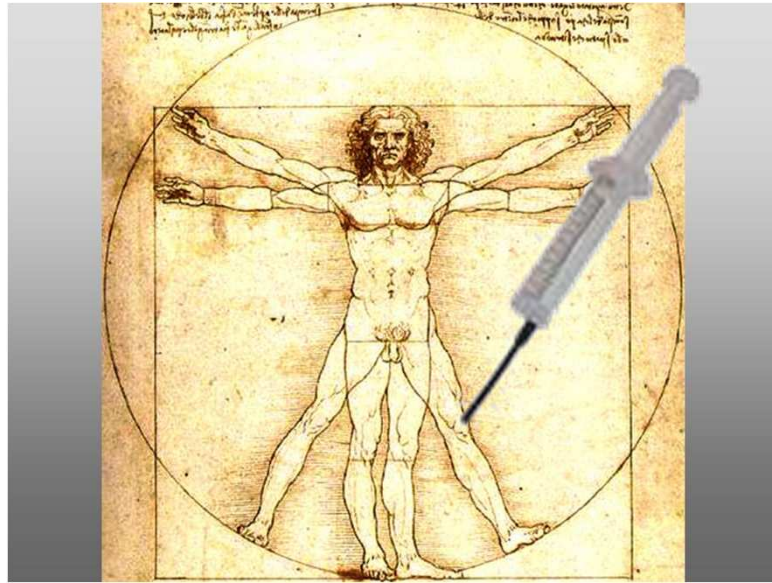
DRFZ Berlin

<http://eutrain-network.eu/esr/esr11/>

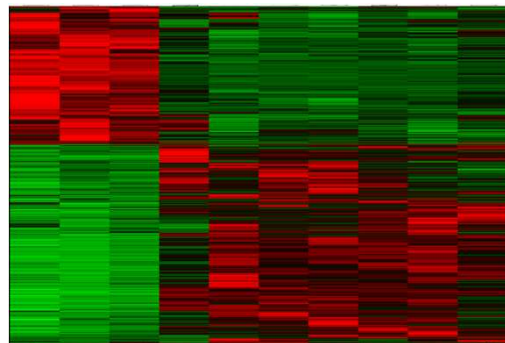
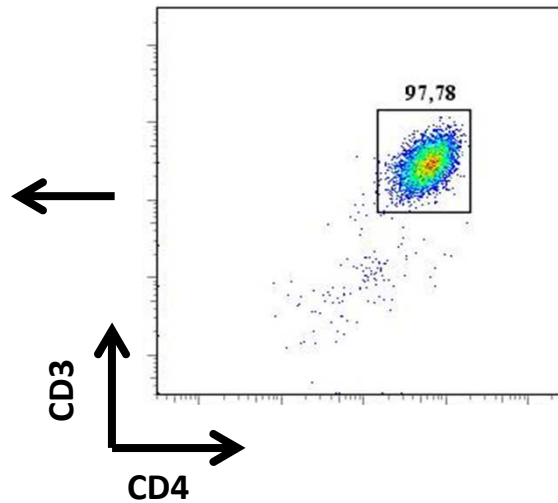
Background and Education



Analysis of gene expression in pathogenic T_H cells from IMID patients



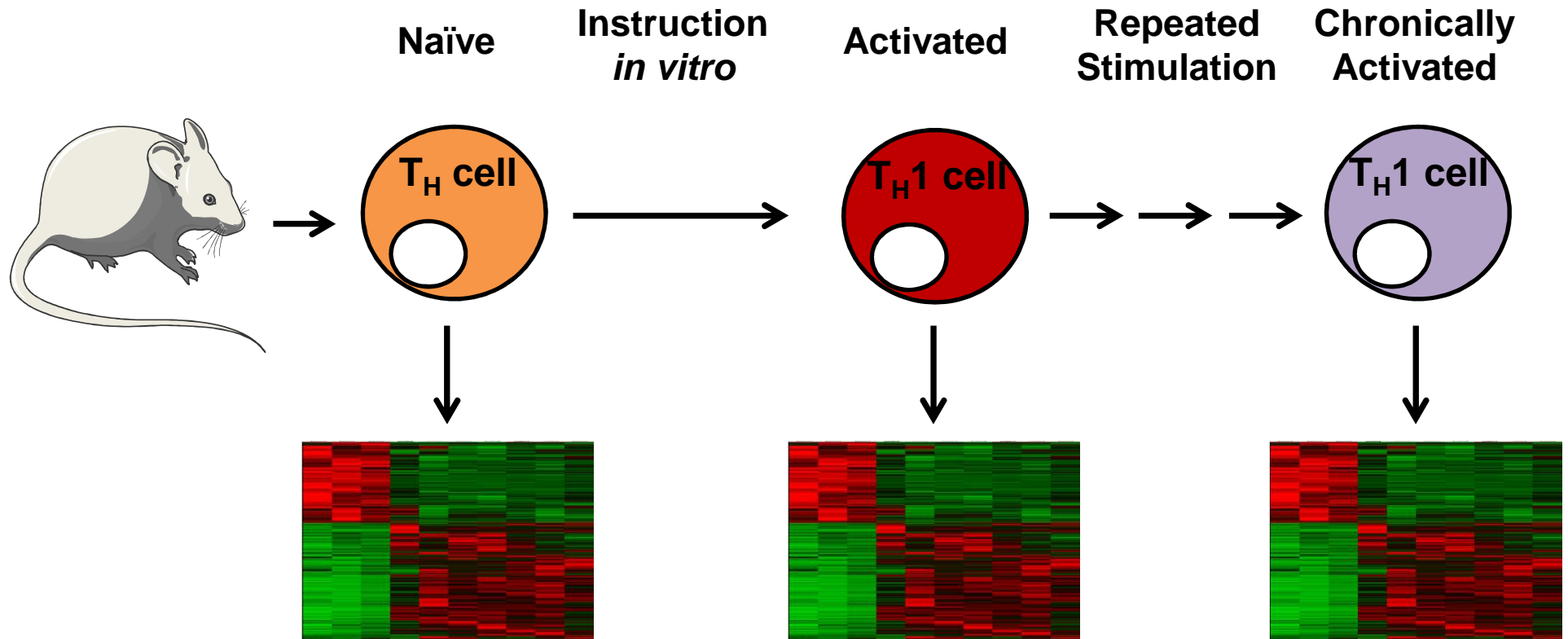
FASC sort:
CD3⁺CD4⁺CD14⁻CD45Ro⁺



Transcriptome

Caveat: lack of patient material!

Alternative approach for identifying genes to target pathogenic memory T helper cells



Aims of the EUtrain ESR11 project

1st year:

- Identification of genes expressed specifically in pathogenic T helper cells from patients with immune-mediated inflammatory diseases (IMIDs)
 - Additional access to synovial fluid/tissues through EUtrain partner ESR2 (UMCU)

2nd year:

- Analysis for the relevance and function of identified genes in driving chronic inflammation
 - Development of appropriate read outs in mouse models (e.g., *in vivo* imaging together with EUtrain partner WWU)
 - Application of techniques in molecular biology and proteomics to characterize identified candidates in driving inflammation (e.g., with EUtrain partners ESR6 WWU/UKM and UMCU)

Long term goal:

- A treatment for patients with IMIDs by selectively depleting pathogenic, chronically activated T helper cells