Improving T cell memory

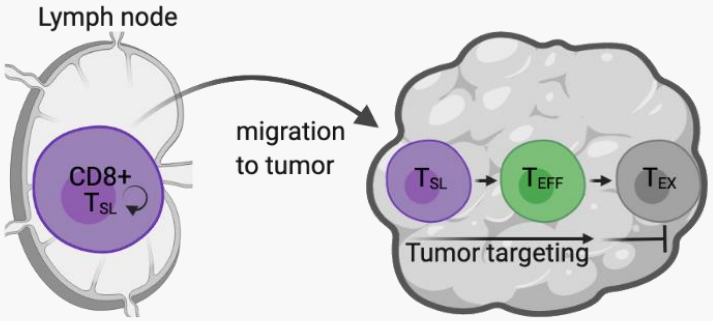
The Problem

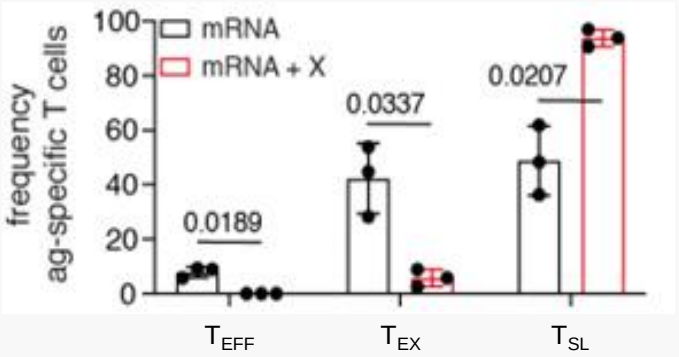
- Vaccines- limited by waning protection over time
- Immunotherapy- some patients do not have long-lasting benefit (e.g melanoma)
- Aging- formation of T cell memory is poor and short-lived, hence greater risk of severe disease following an infection

The Solution

Harness stem-like memory T cells (T_{SL})

- Characteristics of long-life span
- Ability to self-renew
- Rapid differentiation into effector T cells
- Proliferative capacity and antitumor activity (ideal of cancer immunotherapies)





X= Receptor blocking Ab

Our Program

A/Prof Joanna Groom's lab has

- Identified how and where T_{SL} differentiate within the draining lymph node (Duckworth et al Nat Immunol 2021)
- Shown that blocking a receptor during mRNA vaccination can drive the formation of T_{SL}
- Tested in LCMV infection model using mRNA vaccine in combination with commercially available blocking antibodies to the receptor

Seeking - a co-development partner to develop a mRNA vaccine strategy and validate infection and cancer models

Our Team

A/Prof Joanna Groom, Lab Head, Immunology Division

Dr Onisha Patel, Business Development Manager,
patel.o@wehi.edu.au