The use of regulatory T cells as therapeutic strategy in transplantation and autoimmune diseases

Regulatory T cell (Treg)

- IL-2 signaling is crucial for Treg homeostasis
- Other Treg cell surface proteins induce activation and proliferation of this population

Administration of IL-2, either alone or in combination, has been tested to ameliorate graft-versus-host disease (GVHD)

Donor mouse

Recipient mouse

Bone marrow transplant

Treg levels | GVHD
---|---
IL-2 + dexamethasone | elevated | diminished
IL-2/anti-IL-2 + TL1A-Ig | elevated | diminished
recombinant IL-2 (rIL-2) | elevated | no effect

Treg levels | GVHD
---|---
IL-2/anti-IL-2 | elevated | higher donor chimerism
rIL-2 | elevated | no effect
IL-2 + sirolimus | elevated | diminished

Copsel et al., Haematologica, 2019