

Sertoli cells (SCs) are somatic cells located in the testes. They are the only cells in direct contact with germ cells and play a key role in process of spermatogenesis. New insights in the biology of SCs are highlighting the immunological function of these cells: germ cells protection by maintaining the immunoprotective niche, creating the blood-testis barrier and local modulation of the immune response to spermatid cells. Immunomodulatory activity of SCs is preserved after their allo- and xenogeneic transplantation, and thus SCs prolongs survival not only of themselves but also of cells transplanted with them.

The aim of this thesis was to study the survival and migration of SCs precursors (TSC) in mice recipients. The project is employing the neonatal tolerance phenomenon and evolutionary distinct donor organism, *Xenopus tropicalis*, to monitor conserved mechanisms of immune system (IS) modulation using SCs. SCs were detectable in the lungs and thymus 7 days after transplantation. The phenotype of immune cells was not altered 30 days after transplantation, however we detected changes in cytokine environment, namely increased levels of cytokines typical for Th2 and Treg immune responses. *In vitro* experiments further confirmed IS modulation by SCs - changing the phenotype of macrophages to alternatively activated M2 type, which is characterized by expression of CD206 molecule on its surface.