Abstract

The rapid development of regenerative medicine and the urgent need for cells which are able to modulate the immune system, or even differentiate into variable cell types, have led to the research of mesenchymal stem cells. The Sertoli cells, which are essential for the proper development of sperm in the testis, have a strikingly similar character.

In the previous research, a cell culture expressing markers of mesenchymal stem cells and Sertoli cells from juvenile male testes of *X. tropicalis* was established. At the same time, the cells were modified by the introduction of gene for the red fluorescent protein (RFP) in their genome. The aim of this diploma thesis was to clarify their characteristics after microinjection to *X. tropicalis* tadpoles (allogeneic transplantation). For these experiments, it was necessary to develop a reliable technique for the preparation of sections, which won't be harmfull for the samples.

Using the vibratome sectioning method along with immunohistochemical labeling, the cell culture has been found to contain precursors of Sertoli and peritubulare myoid cells.