T regulatory lymphocytes (Treg) belong to the CD4+ cell group. They are an essential part of the immunity system. Treg cells prevent from excessive activation of effector T cells and they keep the tolerance to the tissues of the body. They have high expression of CD25 and the transcription factor Foxp3. We distinguish two basic populations of Treg cells: natural Treg cells (nTreg) created in the thym and representing 5-10 % of all CD4+ cells, and induced Treg cells (iTreg), created from naive CD4+ cells in the periphery.Their regulatory effect is well-known, therefore using of Treg cells could bring about a huge treatment potential for patients with a transplantated kidney. Healthy people and patients tolerant to the transplantated kidney show higher occurance of circulating Treg cells and the Treg cells present in the graft unlike patients with chronical rejection. The tolerance is cancelled with the damage of CD4+ CD25+ cells.For a graft acceptance it is necessary to treat the patient after the transplantation with immunosuppressive medicaments resulting in suppression of immunity reaction against the graft. Their disadvantages are side effects often resulting in the patient´s death. Moreover they often have a negative impact on survival and expansion of Treg cells. The analysis of flow cytometry has shown that the most informative marks regarding the prediction of occurance of acute rejection with transplantation patients are the ratio of memory T cells and Treg cells evaluated immediately before the treatment interruption with tacrolimus and the change of the distribution of naive, effector and memory cells during the time.