Dendritic cells are the most effective antigen presenting cells in humans, they stimulate naive T lymphocytes and thus initiate specific immune response.
The discovery of dendritic cells and understanding of their functions contributed to the idea of usingdendritic cells for the treatment of cancer. Anti tumor immunotherapy is a therapeutic strategy that aims to induce and maintain immune responses against tumor cells.
Currently, immunotherapy based on dendritic cells has strong position among other anti cancer therapies and seems to be a promising therapeutic option for patients with tumors.
In this work, I evaluated the effectiveness of treatment in patients with prostate cancer treated with immunotherapy based on dendritic cells. I focused on the detection of antigen specific T lymphocytes in peripheral blood against tumor antigens, PSA, NY ESO 1, MAGE A1 and MAGE A3. Using a 3 day standard protocol for the detection of antigen specific T cells using intracellular cytokine staining we were able to detect only a small percentage of this minor population. Only after extension of the protocol, we increased the sensitivity setting and we detected a significantly increased frequency of antigen specific T lymphocytes in the peripheral blood after one year DC vaccines application.