DESCRIPTION FOR THE GENERAL PUBLIC

Dog lymphomas and leukemia comprise up to 25% of all cancers occurring in this species, and because of the lack of efficient healing therapy they constitute a serious challenge for modern veterinary oncology. Therapy of dog's lymphomas and leukemia, as in the case of this type of tumor in humans is based on the combined administration of cytostatics. However, contrary to human treatment schemes in animal cases there is lack of modern biological medicines such as monoclonal antibodies. Their development could significantly prolong the lifespan of veterinary patients treated with cytostatics, which currently averages 11-14 months. In our laboratory, we have produced two murine monoclonal antibodies (B5 and E11) that recognize with high affinity DLA-DR molecule. It has been shown that expression of DLA-DR detected by the B5 and E11 antibodies on tumor cells is about 100 times higher than the expression detected DLA-DR on the surface of normal blood cells. The goal of the project is to explore the potential of generated antibodies in the diagnostics and treatment of lymphoma in dogs. For this purpose, we plan to analyze about 150 blood and lymph nodes samples from ill and healthy dogs. We assume analysis using ELISA and rapid strip tests. Additionally, we plan to check exhibited in preliminary research *in vitro* cytotoxicity in *in vivo* tests in a mouse model. After administration of cancer cells we will test the anti-tumor activity of B5 and E11 in various combinations of dosage and frequency of injection of antibodies. Another element is the creation of hybrid constructs containing DR and DQ the domain in order to better identify binding sites of antibodies, and sequence determination and mutation potentially affecting changes in the conformation of the molecules on the surface of tumor cells. Identification and assessment of the usefulness of such antibodies for rapid diagnosis and treatment of lymphomas could contribute to significant advances in veterinary medicine.