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MAIN FIELDS OF RESEARCH; ABSTRACT  
Colorectal cancer is one of the most frequent cancers in Switzerland and has with 37% a high overall fatality rate. Different regimens are currently under investigation and traditional chemotherapy is being combined with immunotherapy, for example using interleukin-2 (IL-2). Although IL-2 has long been known for its immunostimulatory effect, its use is limited due to adverse effects such as pulmonary edema. The Boyman laboratory was able to increase the immunostimulatory activity and simultaneously decrease the adverse effects of IL-2 by generating IL-2/anti-IL-2 monoclonal antibody complexes (IL-2/mAb), which showed promising results in a melanoma mouse model. To apply this approach to intra-abdominal tumors, notably colon cancer, my thesis aims at examining the phenotypic and functional properties of immune effector cells found within the tumor or in tumor-draining lymphoid organs in order to test whether novel therapeutic approaches such as IL-2/mAb or another cytokine/mAb treatment could lead to prolonged survival in this model.

SPECIAL TECHNIQUES AND EQUIPMENT  
flow cytometry, IVIS, microsurgery, transgenic mouse models