The long-term research programme of the Laboratory is focused on the mechanisms involved in induction, regulation and suppression of the anti-tumour immunity. The murine model for tumours associated with human papilloma virus (aetiologic agent of the cervical carcinoma) has been employed in most of our studies. Special attention has been paid to the clinically relevant setting of the minimal residual tumour disease treatment after primary tumour resection or chemotherapy. We have investigated mechanisms of immunosuppression in the course of the tumour growth, with the final goal to include the blockage of the negative signals into the immunotherapeutic schemes. We have also investigated the mechanisms of the anti-tumour immune responses against tumours mediated by MHC class I-restricted and unrestricted mechanisms, and immunologic cross-reactivity between tumours of the same aetiology but distinct MHC class I expression. We have found that epigenetic agents induce expression of genes involved in antigen-processing machinery and surface expression of MHC class I molecules on the tumour cells, as well as selected co-stimulatory and co-inhibitory molecules.

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