

## Research project IZS VE 04/10

### Gene expression profiling of canine mast cell tumours to reveal new prognostic and survival biomarkers

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In cancer research, high-throughput screening technologies are nowadays important to identify prognostic biomarkers (BMs), specifically to characterize tumours as well as uncover novel molecular target therapies. Among these molecular techniques, the global analysis of transcriptome by using the microarray technology, is considered of value in many studies.

In a recent study, still in progress, mRNA levels of candidate genes were measured in canine osteosarcoma, mammary gland and mast cell tumours (MCTs) biopsies, and this project aims to further deepen knowledge about dog cancer molecular biology.

The main purpose of the project is to better characterize, under the molecular point of view, the most common cutaneous tumour of the dog (MCT), by means of high throughput nanotechnologies (microarray and confirmatory quantitative Real time RT-PCR). Specific objectives are a) provide more genomic data useful for veterinary and comparative oncological studies; b) identify common or tumour-grading specific BMs for MCTs; c) create and implement a biotechnological platform for diagnostic investigations or collaborative research projects in the field of cancer research.