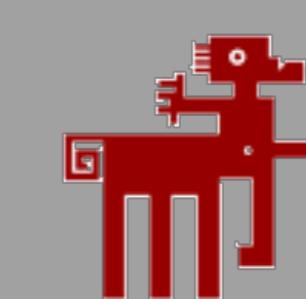


# MALIGNANCY SERUM MARKERS IN CANINE MAMMARY TUMOURS

Berta Vazquez Ferrer • June 2018 • Final degree project



## INTRODUCTION

### INFLAMMATION AND NEOPLASIAS

- Tumor related with infections and chronic inflammation in 25% of the cases
- Infections and chronic inflammations involved in tumoral initiation, promotion and progression
- Cytokines improve or inhibit tumoral growth and its progression
- Inflammatory interleukins related to tumorigenesis

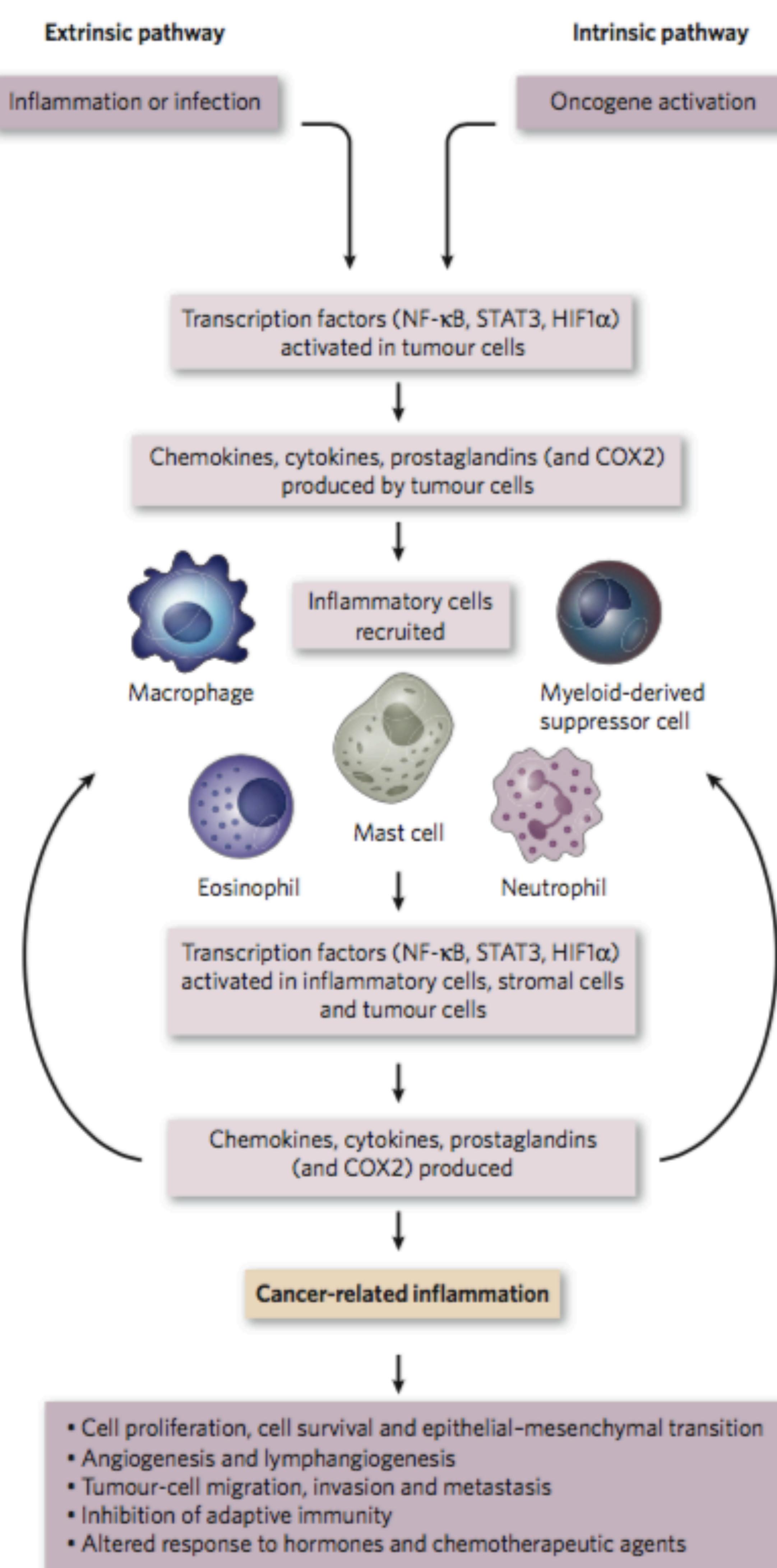


Figure 1: Extrinsic and intrinsic pathway (Mantovani *et al.* 2008)

## OBJECTIVES

1. To evaluate the utility of the expression of interleukin-3 (IL-3) in serum as a differential diagnosis tool in benign and malignant mammary tumours.

## MATERIALS AND METHODS

- Serum samples from 18 bitches centrifugated and freezed at -80°C.
- Samples from Fundació Hospital Clínic Veterinari patients with owners allowance.
- Samples analysis:
  - Bradford method
  - Western Blotting (Figure 3 and 4). Incubation with IL-3.

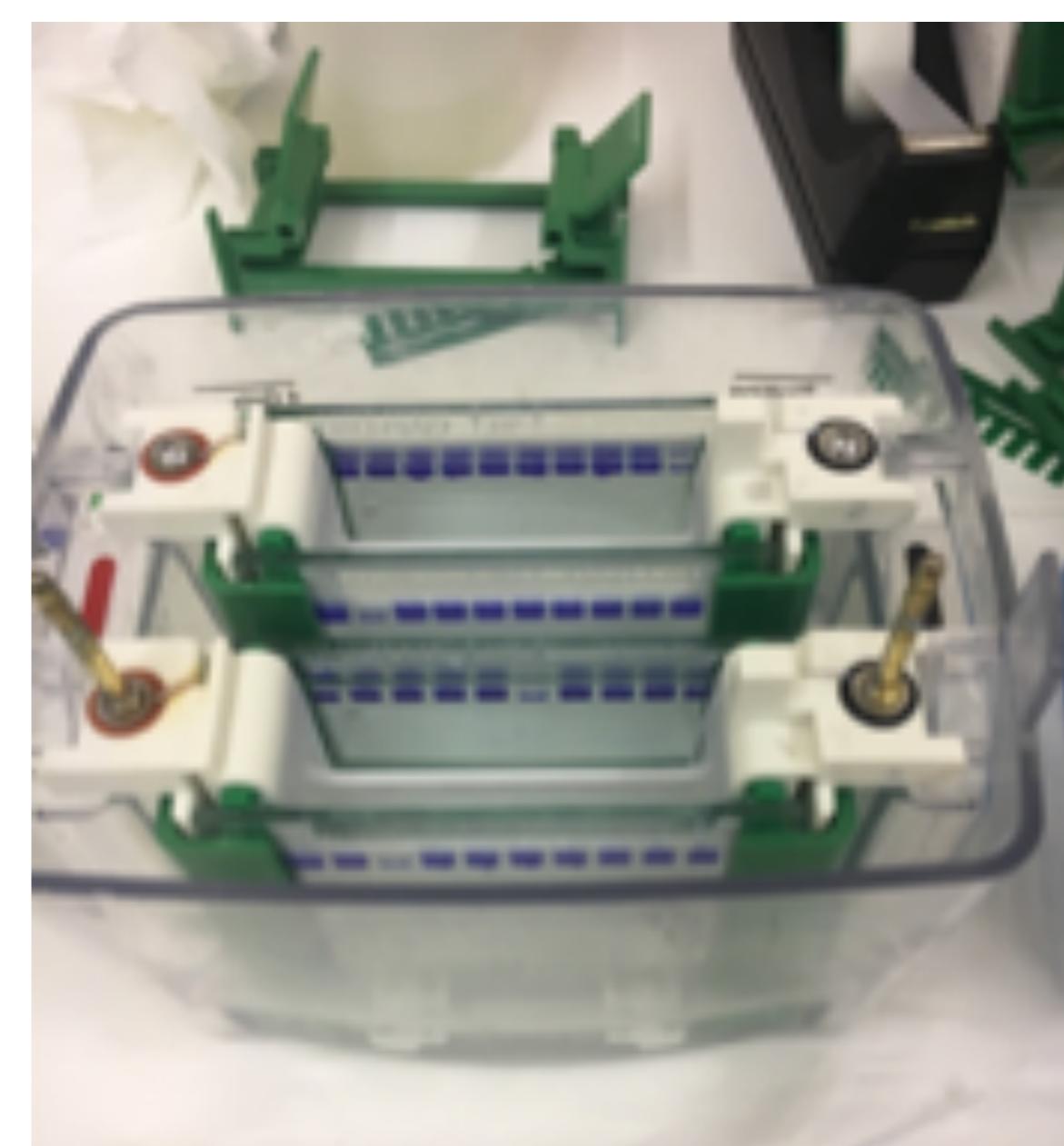


Figure 3: Electrophoresis preparation



Figure 4: Membranes incubation with primary antibody

## RESULTS

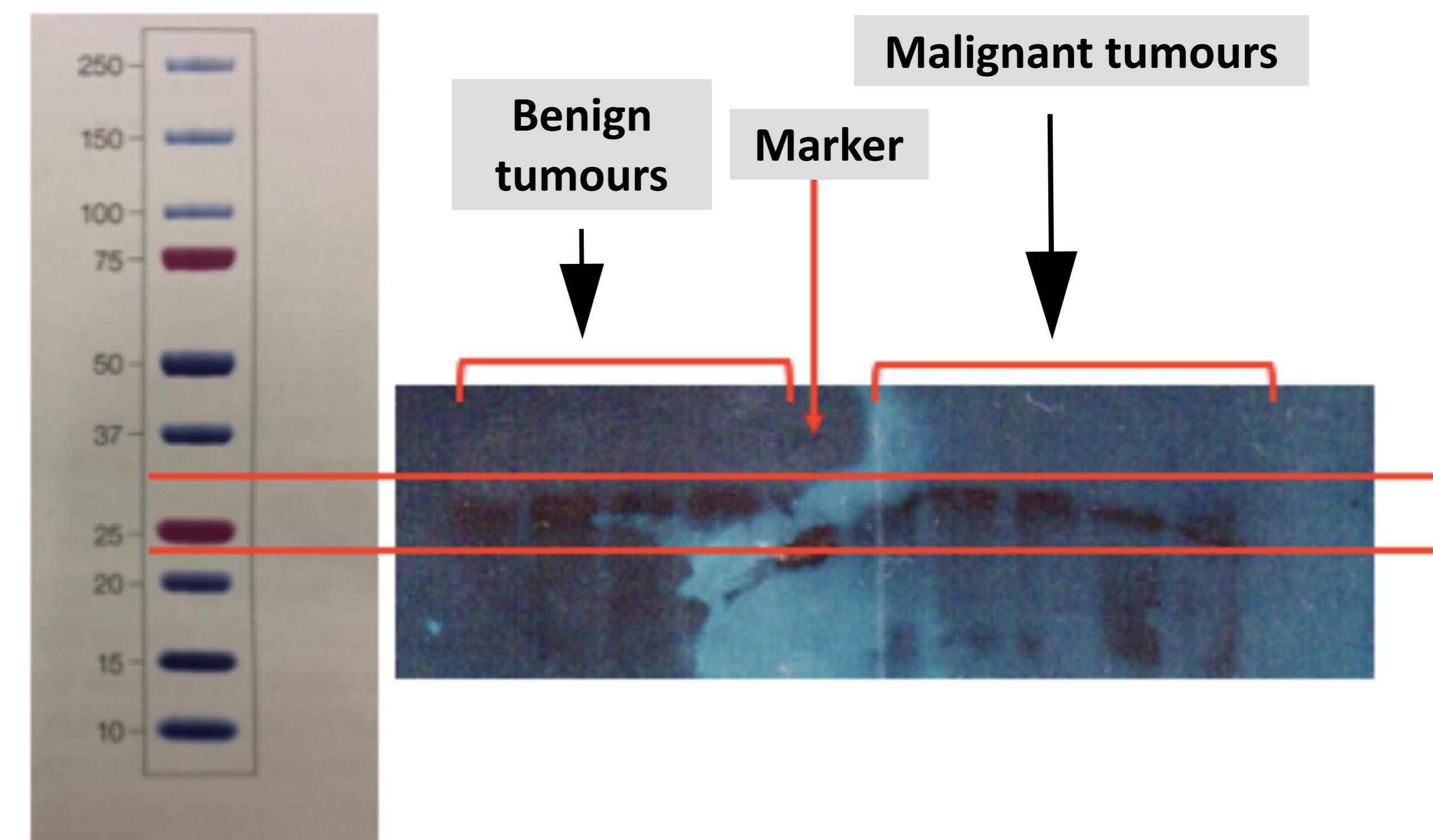


Figure 5: Western Blotting results. Marker legend and radiograph film

- More IL-3 expression in benign mammary tumours

## DISCUSSION AND CONCLUSIONS

- Important role of interleukins in tumour growth as it is controlled by immune system.
- Tumoral microenvironment controlled by inflammatory cells, essential for neoplastic growth, proliferation, migration and survival.
- IL-3 might be implicated in antitumorigenic processes according to results and literature.
- Might IL-3 be a useful serum marker for diagnosis?
- Further studies with bigger samples need to be done
- Follow-up and periodical analysis and quantification of IL-3 expression levels in serum from bitches that show metastasis as a possible study