

# Potentials and Limitations of Clonality Testing Experiences with Clinical Cases

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## Background

Clonality Testing is neither a standalone tool for diagnosing lymphoma nor a method to discriminate between B- and T- cell lymphoma. It is most helpful when morphologic techniques fail to differentiate a reactive lymphocytic population from neoplasia.

In this retrospective study we investigated the indications for Clonality Testing (PARR) and describe PCR-results compared to morphology.

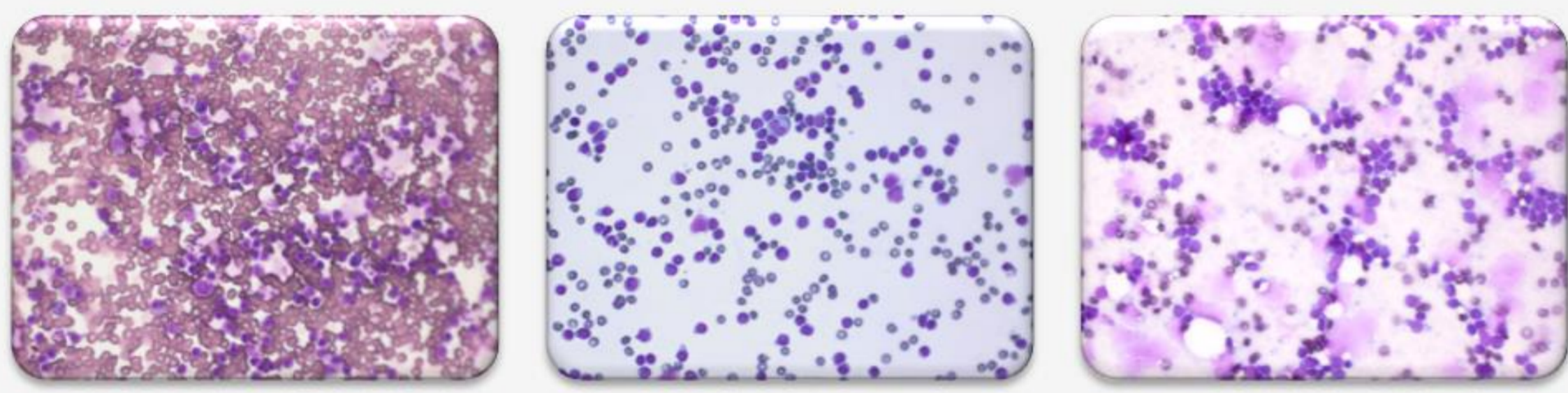
## Material & Methods

Within four years, 838 cytologic samples of canine lymphoid tissue were submitted for Clonality Testing (PARR).

Before PARR, all slides were evaluated by microscopy and classified using the C-system.

For documentation of cellularity and sample quality, images were taken.

### Indication: Inconclusive morphology – C3

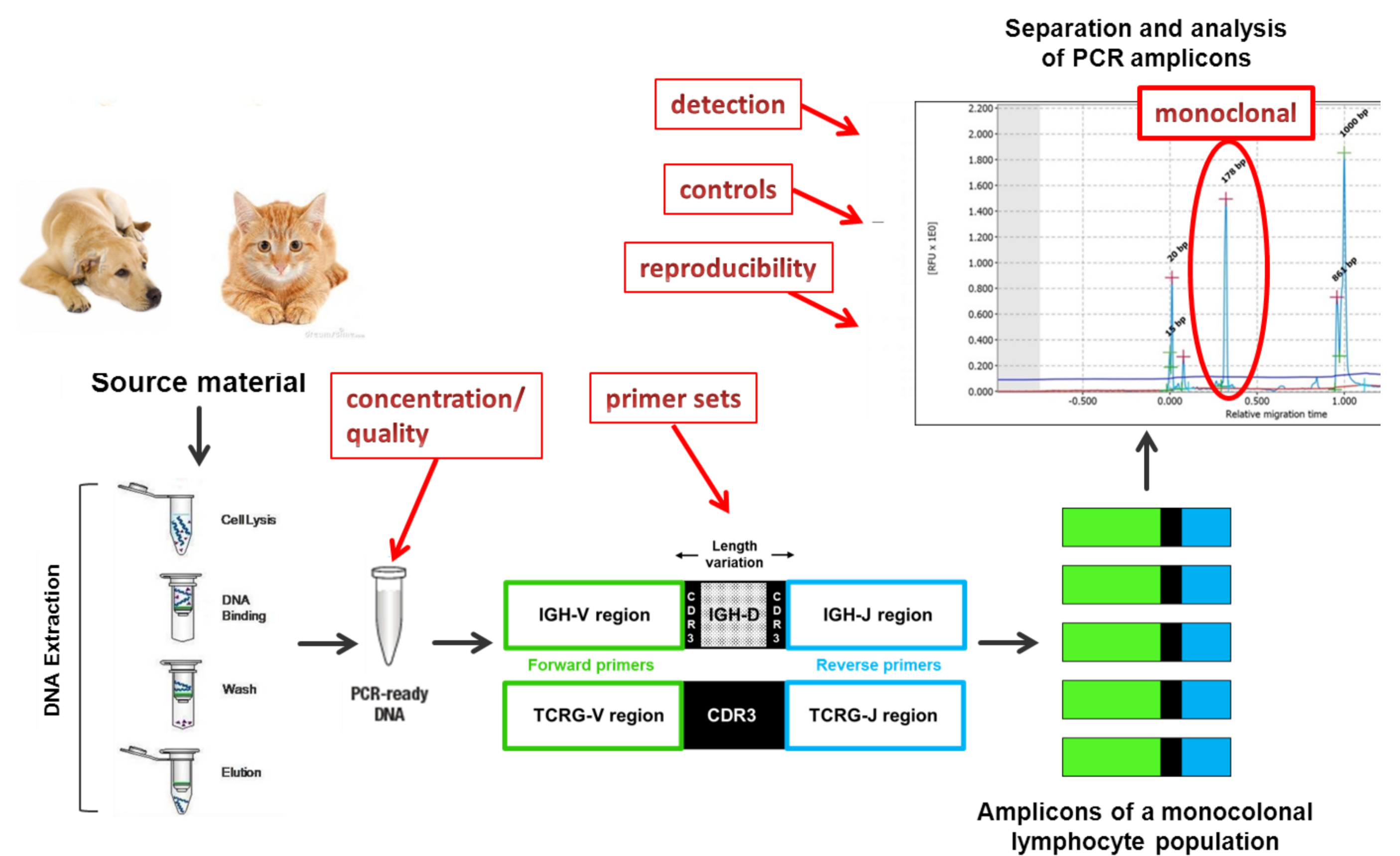


Lymphoid hyperplasia vs. tumour infiltrating lymphocytes

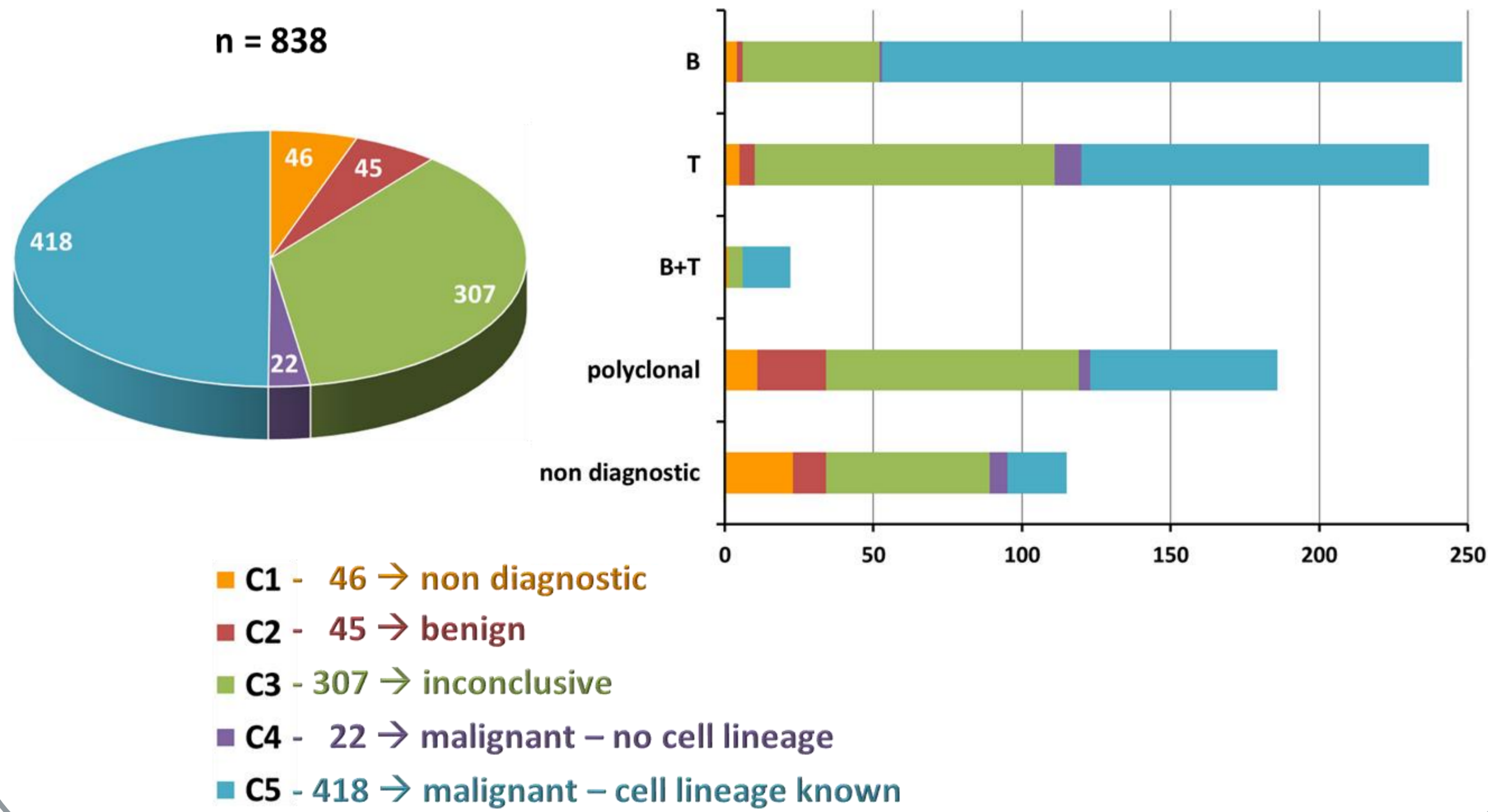
Effusions with large numbers of small lymphocytes

FNA or samples with small numbers of atypical lymphocytes

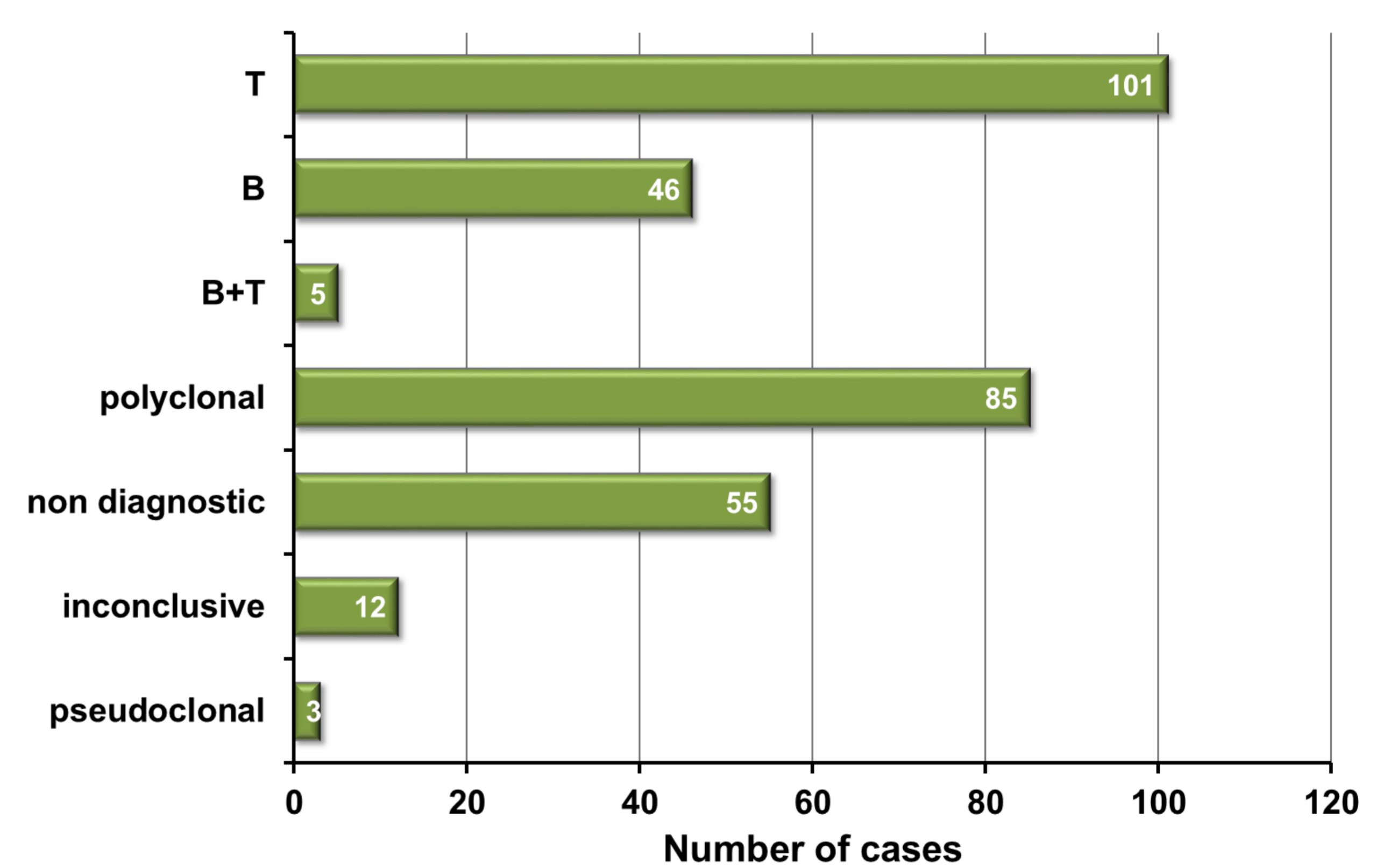
### Workflow for Clonality Testing



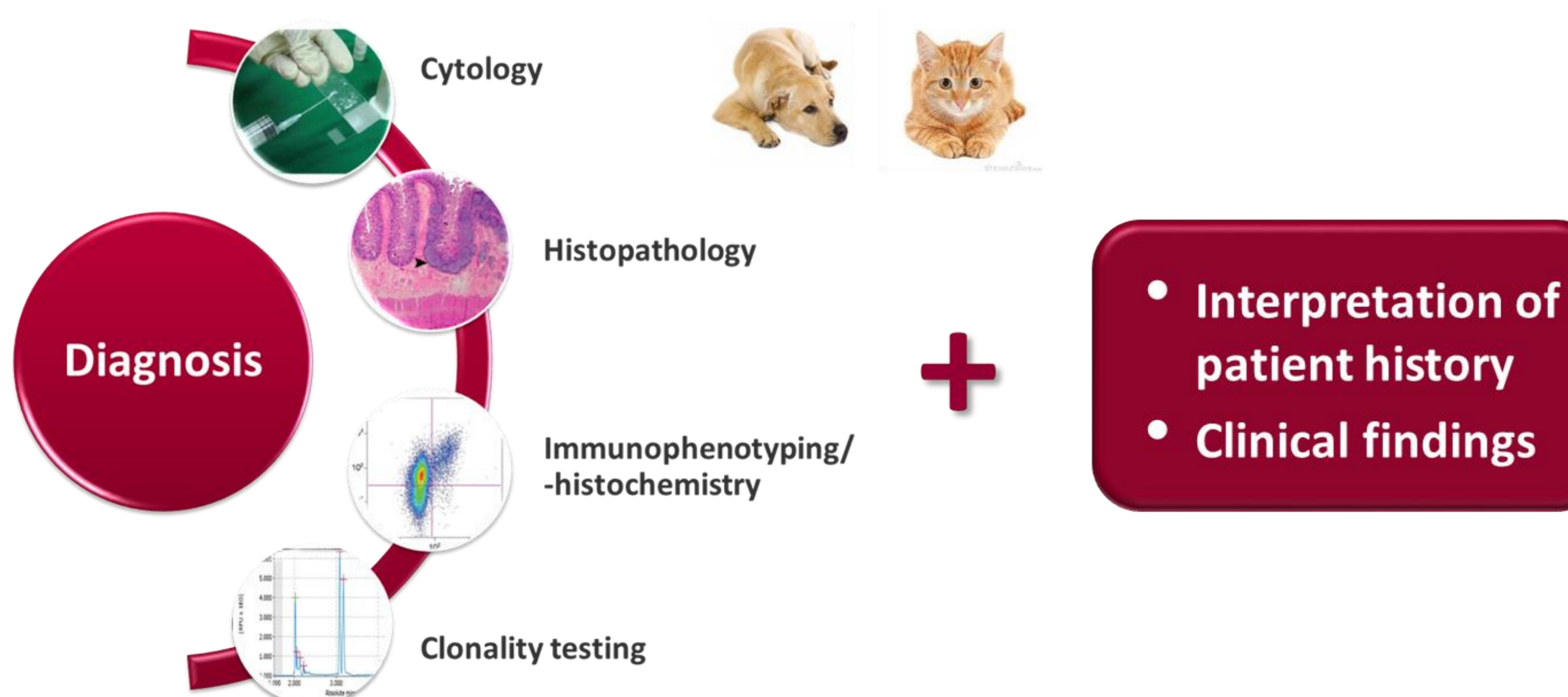
### C-classified cytological samples



### 307 correctly requested cases (C3)



### Best practice recommendations



... are necessary for obtaining **accurate diagnostic information** to comply with scientific standards!!!

## Conclusions

- (1) In cases with a clear cut morphologic diagnosis (C5), 15% gave a false negative result (matching reported sensitivity of 0.86).
- (2) In the group where morphology suggested a reactive lymphocyte population, 15% showed false positive results (matching reported specificity of 0.85).
- (3) To truly benefit from the potential of Clonality Testing, the correct indications and best practice recommendations have to be disseminated to our veterinarian community.