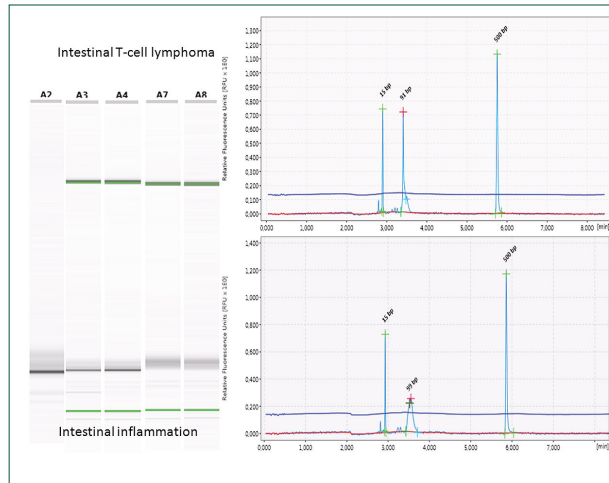


# PCR for Antigen Receptor Rearrangements (PARR)

## What is PARR?

PARR stands for PCR for Antigen Receptor Rearrangements. This is a clonality assay that helps to distinguish neoplastic from inflammatory lymphoid cells. Lymphoid neoplasms are monoclonal expansions of malignant lymphoid cells, whereas inflammatory lymphoid cells are usually polyclonal. Depending on animal species, the tests are based on single or multiple uniplex or multiplex PCRs for T cells and B cells, targeting the CDR3 region of T-cell receptor gamma and immunoglobulin heavy chain genes, respectively. PCR primers target conserved regions flanking the hypervariable regions of these genes.



## What Are the Indications for the Use of PARR?

There are numerous indications for using PARR in canine or feline lymphoid diseases, especially when the morphological, cytological, or immunophenotypic properties of a lymphoid cell population are inconclusive. For example, PARR is useful to differentiate follicular lymphomas such as T-zone lymphoma or marginal zone lymphoma from hyperplastic reactions when there is lack of architectural effacement. PARR can also be used to characterize lymphohistiocytic proliferations in the feline or canine skin and is a major component of the diagnostic algorithm to differentiate feline inflammatory bowel disease from intestinal lymphoma. For feline intestinal biopsies, a specific panel is available. We are the only diagnostic lab that currently performs duplicate or quadruplicate amplification, heteroduplex analysis, and capillary electrophoresis, which allows us to achieve the highest possible sensitivity as well as avoid pseudoclones, which are false positive results. PARR results should never be interpreted independent of morphology. We therefore only offer PARR in combination with a biopsy or a second opinion and immunophenotyping.

## What Should Be Submitted and What is the Cost?

All tests can be performed on routine formalin-fixed biopsy material as well as previously submitted biopsy samples. Alternatively, clients can request another pathology service to submit the paraffin block if the tissue was originally processed elsewhere. For more information including pricing, please visit our website at [animalhealth.msu.edu](http://animalhealth.msu.edu) under Available Tests or call the lab at 517.353.1683.

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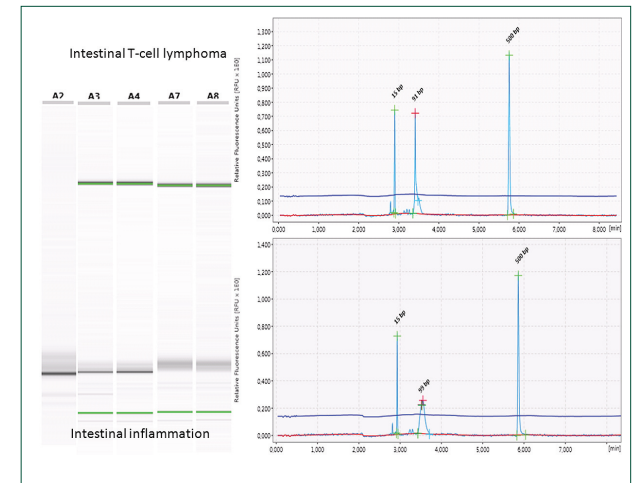
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4125 Beaumont Road, Lansing, MI 48910 | PH: 517.353.1683 | FX: 517.353.5096

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DCPAH is a full-service veterinary diagnostic laboratory, fully accredited by the AAVLD for all species through 2017.

### Sample Submission Forms

Visit our website at [animalhealth.msu.edu](http://animalhealth.msu.edu) to access our most current submittal forms. Customized forms preprinted with your clinic information are also available at no cost via the Product Order Form.

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Individual, insulated, and biopsy mailers are available. Contact us at 517.353.1683 or complete the Product Order Form available online at [animalhealth.msu.edu](http://animalhealth.msu.edu).

### Packaging and Mailing Samples

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### Speak Directly to Experts

Our veterinary professionals are available for consultation and can help you interpret your test results to better manage the health of animals entrusted to you.



### Get Results by Email and Online

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DCPAH is a leader in establishing technical guidelines for public veterinary diagnostic laboratories in the United States and maintains a quality assurance team dedicated to promoting accuracy and reliability.



**Customer Service Hours**  
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