



Flow cytometry is a test that determines the immunophenotype of cells by recognizing normal and abnormal expression of cell surface markers on T cells (helper T cells, cytotoxic T cells), B cells, neutrophils, and monocytes.

1. To help distinguish between reactive and neoplastic lymphocytes
2. To determine if lymphoma/leukemia is of B or T cell origin and in some cases, identify specific subtypes of B or T cell lymphoma/leukemia which will aid in prognosis
3. To differentiate between lymphoid and non-lymphoid (myeloid/monocytic) neoplasia

Clinical flow cytometry is used most often in combination with clinical history/presentation and cytology/blood smear examination for diagnosis of disease. In some cases, additional diagnostics (PARR-PCR for antigen receptor rearrangement, histopathology, immunohistochemistry, immunocytochemistry) are also required.

1. **O**
 - a. Confirmed or probable lymphoma composed of intermediate to large lymphocytes
 - b. Homogeneous expansion of small to intermediate lymphocytes
 - c. Suspected lymphoma or thymoma (for mediastinal mass)

Sample to submit: Fine needle aspirate of lymph node/enlarged organ/mass (see sample submission guidelines)

Note: Flow cytometry is not indicated on these samples if cytology results report rare to low numbers of atypical/suspicious cells
2. **°**
 - a. Peripheral lymphocytosis with increased numbers of small mature, intermediate, or immature lymphocytes
 - b. Presence of any immature cells/'blasts' with a normal or elevated white blood cell count

Sample to submit: Peripheral blood (EDTA tube)

NOTE: If the lymphocytosis is composed of small to intermediate lymphocytes test for Ehrlichia infection in dogs with lymphocyte counts up to ~20k (rarely up to 30k) and ruleout 'stress' in cats with lymphocyte counts up to ~20k (rarely up to 30k) prior to running flow cytometry

3. **°**
 - a. Increased numbers of blasts or small/intermediate lymphocytes with leukopenia on CBC

Sample to submit: Bone marrow (EDTA tube) for samples with leukopenia on CBC. Peripheral blood (EDTA tube) is preferred if lymphocytosis is present.

4. **"**
 - a. High numbers of small/intermediate/OR large lymphocytes consistent with or concerning for lymphoma

- Samples can be transported via AVDL courier or with overnight AVDL UPS labels for morning delivery
- *Contact the Athens Veterinary Diagnostic Laboratory (706)542-5568 to inquire:*
 - of courier services available in your area
 - Or UPS overnight labels by email from AVDL

Reporting and pricing schedule

- h : \$125/sample
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- Samples are processed on the day they are received or the next day to determine the cell count and cell viability and perform flow cytometry
- For pricing of additional tests (e.g. CBC, cytology) please see the Athens Veterinary Diagnostic Laboratory Website: <https://vet.uga.edu/diagnostic-service-labs/veterinary-diagnostic-laboratory/>

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