

# Frequently Asked Questions

## Practical

### How do I order the test?

To order the test login into your Texas A&M GI Lab account or if you are not yet a customer set up an account at <https://vetmed.tamu.edu/gilab/>

Inquiries can be sent to [gilab@cvm.tamu.edu](mailto:gilab@cvm.tamu.edu) or you may call (979) 862-2861

### How do I process the sample?

The sample can be drawn from a peripheral or jugular vein. The sample should be collected in an EDTA (lavender top) tube and centrifuged at 1600xg (the “blood” spin) for 10 minutes within one-hour of collection. The plasma should be pulled off and placed in a sterile red top (no additive) tube or cryovial for shipping. Please be careful not to disrupt the buffy coat while pulling off the plasma portion of the sample. The animal should be fasted for 4 hours prior to collection. Reduced Fed-Ex is available through the GI Lab website and samples should be sent on ice overnight.

**NOTE:** the GI Lab is only open to accept samples Monday to Friday so please only ship overnight Sunday thru to Thursday.

### What kind of tubes can I send the plasma sample in?

The plasma needs to be sent in a clean tube (no additives). This could be a red top tube, cryovial, or top test tube.

### What is the minimal required volume of plasma for the assay?

Though we prefer a larger sample in case repeated assays are needed, the minimum volume requirement for the assay is 0.5 mL of plasma. (smaller volumes may be accepted on a case-by-case basis).

### What if I let the tube sit for more than 60 minutes before spinning?

This will likely falsely increase the nucleosome levels in the sample. Please redraw the sample and spin it down at 1600xg for 10 minutes within 60 minutes of the blood draw.

### Can I use serum instead of plasma?

Ideally the test should be performed on plasma and we do not recommend the use of serum as nucleosome levels are much less stable in serum. However, if serum is the only thing that you have the test can be performed but the sample **MUST** be centrifuged within 20 minutes of the blood draw and the serum removed immediately. Serum levels are often slightly higher than plasma levels, so if your patient has a result in the moderate risk zone, then you may need to retest the patient using plasma to confirm the mild elevation in nucleosomes.

### What if my sample is hemolyzed after centrifugation?

Mild or moderate hemolysis will not interfere with the test. In humans, haemoglobin levels of 500 mg/dL were shown to not interfere with the assay. However, if you sample has 3+ or higher hemolysis you may want to redraw a new sample.

### When can I expect the results?

Within 3 business days.

### Do you accept samples over the weekend?

The GI Lab does not accept samples over the weekend. Please only ship overnight on ice Sunday through to Thursday.

## Clinical

### When should I have my dog tested?

The Nu.Q® Vet Cancer Screening Test is best suited to be used with the annual wellness check for older dogs (7 years and older) and can also be a complementary test for younger dogs (4 years and older) with an increased risk for developing cancer in their lifetimes such as, Golden Retriever, Labrador Retriever, French Bulldog, Boxer, Beagle, German Shepherd, Bernese Mountain Dog, Siberian Husky, Rottweiler, Great Dane, Irish Wolfhound, Scottish Deerhound, Mastiff, Flat Coated Retriever.

### What does the Nu.Q® Vet Cancer Screening Test Measure?

The Nu.Q® Vet Cancer Screening Test measures the level of nucleosomes that are circulating in the blood. When a patient has cancer, nucleosomes from those cancer cells are released into the blood and can be measured using antibodies that are specific to nucleosomes.

### Is there any risk to having this test done?

One of the advantages to the Nu.Q® Vet Cancer Screening Test is that it is non-invasive, only requiring a peripheral blood draw. Since it is only a blood draw there is no significant risk to the dog and no required down time.

### Will this test tell me what kind of cancer my dog has?

No, the release of nucleosomes into the blood is common to many different types of cancers. Additional tests are necessary to diagnose cancer and determine the source of the circulating nucleosomes.

### What types of cancer has the Nu.Q® Vet Cancer Screening Test been able to detect?

The Nu.Q® Vet Cancer Test was shown to detect 76% of systemic cancers (lymphoma (77%) , hemangiosarcoma (82%) , and histiocytic sarcoma(54%) at 97% specificity. Data also suggests the Nu.Q® Vet Cancer Test can detect some instances of Mast Cell tumors, Osteosarcoma, Oral Melanoma, and Soft Tissue Sarcoma.

### Can I run this test on a sick patient or does the patient need to be healthy?

Inflammatory diseases such as immune mediated disease, systemic inflammation, sepsis and trauma can also cause elevated nucleosome levels. This test will not differentiate between patients sick with systemic inflammatory mediated illness from those sick with cancer. For this reason, we do not recommend running the test in patients that could have these types of diseases. However, the test may be run in dogs without systemic inflammation but with other illness such as hypothyroidism, renal disease, osteoarthritis, mild or moderate pyoderma or other such minor illnesses.

### Are there any medications that interfere with the Nu.Q® Vet Cancer Test results?

Prednisone decreases the nucleosome concentrations in the sample and therefore dogs should be off prednisone for 10-14 days prior to pulling a Nu.Q® sample.

Dexamethasone can also decrease the Nu.Q® score and should be given at least 48 hours prior to testing if the sample cannot be pulled before the injection is given.

Though we have not done exhaustive studies of all medications and their potential for interference, the common medications listed below have not been shown to have any effect on test results as long as there is no significant systemic inflammation: Trazadone, Diazepam, Thyroid Supplements, NSAIDs, Joint Supplements, Apoquel, Cytopoint.

## Clinical

### Do pre-existing or other clinical conditions impact the results of the Nu.Q® Vet Cancer Test?

The Nu.Q® Vet Cancer Test measures elevated nucleosomes that occur with rapid cell death which may be an indication of cancer. However, nucleosome spikes may also occur in inflammatory diseases such as immune mediated disease, systemic inflammation, sepsis, and trauma. For this reason, we do not recommend running the test in patients that could have these types of diseases. Chronic inflammatory conditions, systemic inflammation that is being treated medically and not 'flaring', hypothyroidism, renal disease, osteoarthritis, mild or moderate pyoderma, or other such minor illnesses do not impact the results of the Nu.Q® Vet Cancer Test. Additionally, a patient who has not been fasted a minimum 4 hours may have elevated nucleosome levels.

### Can I still use the sample if the patient has not been fasted?

Dogs who have not been fasted for 4 hours may have slightly elevated levels when compared to fasted samples less than 4 hours in the same dog. If your dog has not been fasted, they may end up in the moderate to high risk zone even though they are healthy. If this is the case, please fast your dog for 4 hours and repeat the test at a later date. If the level remains elevated, then additional testing may be necessary.

### Will the Nu.Q® Vet Cancer Test or OncoK9 tell me what type of cancer my dog has?

Neither the Nu.Q® Vet Cancer Test nor the OncoK9 provide a definitive cancer diagnosis. The primary purpose of both tests is to screen for cancer and if there is a suspicion of cancer your veterinarian should continue down the diagnostic pathway to confirm and locate the cancer. Refer to the How to Interpret the Results of the Nu.Q® Vet Cancer Test and the Nu.Q® Vet Pathway for additional information.

### Is the baseline Nu.Q® Vet level prognostic?

The Nu.Q® Vet Cancer Test is not a prognostic for cancer. A "very high" Nu.Q® Vet value does not indicate advanced disease or a shorter survival time.

A study of 25 dogs with lymphoma presented at 2022 ESVONC conference demonstrated that all dogs with elevated nucleosome concentrations (high-very high Nu.Q® Vet result) achieved normal concentrations (low Nu.Q® Vet result) while in clinical remission. The dogs with the highest values did not have shorter survival times than dogs with lower values.

### How do the Nu.Q® Vet Cancer Test and OncoK9 work differently?

The Nu.Q® Vet Cancer Test does not require any special equipment to collect and submit a sample. Please refer to the "How to Submit a Sample" section for specific instructions. It is important that the dog is fasted for a minimum of four hours prior to the test.

The OncoK9 requires a kit to be ordered *prior* to sample collection.

### Is there a difference in amount of blood needed?

The Nu.Q® Vet Cancer Test requires 2-5mL of blood to process a sample. OncoK9 requires a 14-17mL blood volume to obtain sufficient cell-free DNA from a sample.

### How much do the Nu.Q® Vet Cancer Test and OncoK9 cost?

The Nu.Q® Vet Cancer Test is currently available through Texas A&M GI Lab at a cost of \$122 to the veterinarian (plus \$28 shipping). A point of care (POC) is being developed in collaboration with Heska and will be offered around \$50 cost to the pet owner. The OncoK9 is significantly more expensive, for details please contact your veterinarian.