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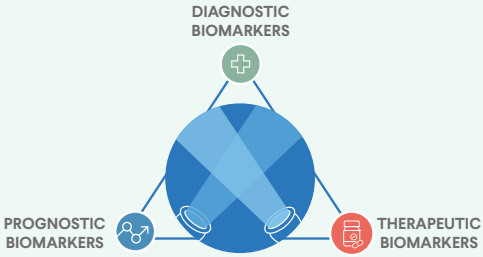
How can genomics benefit your cancer patients?

Knowing a tumor's genetic fingerprint can aid in the diagnosis and prognosis of cancer and help inform treatment decisions.

Learn more about SearchLight DNA™, an extensively validated diagnostic test from Vidium Animal Health® that uses next-generation sequencing to identify important mutations in 120 relevant cancer genes.

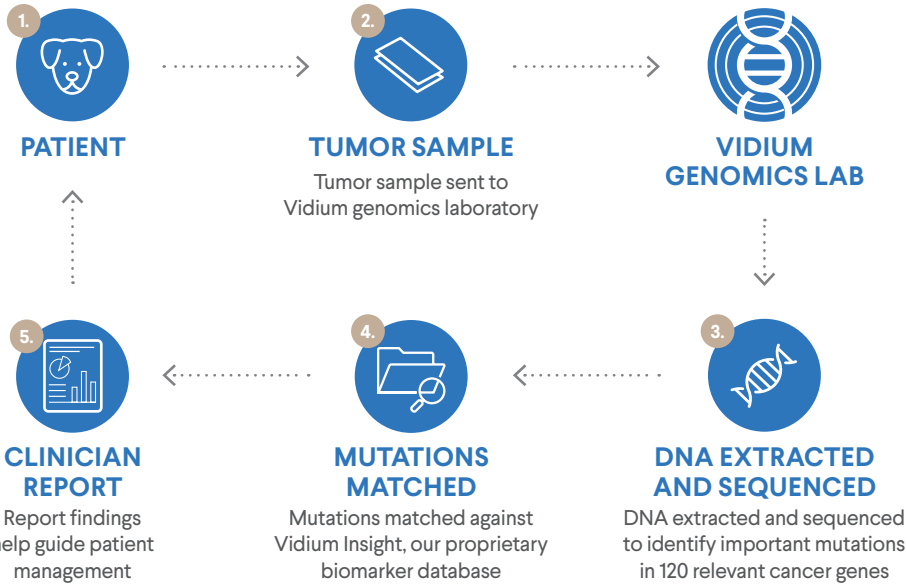
SearchLight DNA identifies important biomarkers to advance the care of pets with cancer



Discover how SearchLight DNA can provide insights into a cancer's origin, its behavior, and the optimal approach to treatment.

How does SearchLight DNA™ work?

Once your patient's tumor sample arrives at our genomics laboratory, Vidium scientists extract and sequence the DNA, and analyze each tumor's genome to identify its unique mutations. We then use our proprietary biomarker database, Vidium Insight™, to bring the latest diagnostic, prognostic, and treatment guidance to each case.



Why run a tumor panel?

- Mutations in one tumor may not be present in another tumor of the same histology
- Most tumors evaluated by Vidium Insight have mutations with diagnostic, prognostic, and therapeutic actionability
- Other tumors may have inferred actionability that can guide the use of targeted therapy

SearchLight DNA is backed by unimpeachable science

In a validation study, SearchLight DNA demonstrated:

- 95% sensitivity and 99% specificity for detection of low allele frequency (AF), single nucleotide variants (SNVs), and internal tandem duplications (ITDs)[1]
- Reproducibility ≥95%[1]
- Zero cross-contamination[1]
- High performance across tissue and tumor types[1]

95%
SENSITIVITY

99%
SPECIFICITY

for detection of low AF SNVs and ITDs[1]

5 THINGS TO KNOW ABOUT SEARCHLIGHT DNA

1. SearchLight DNA is a rigorously validated test.
2. As a descriptive panel, SearchLight DNA provides a new layer of comprehensive information about a pet's cancer so that *you* can make the best decisions for your patient and client.
3. SearchLight DNA is driven by our extensive database, Vidium Insight, which includes all the updated, curated, and pertinent information surrounding genomics in cancer, as well as extensive mutation data and clinical outcomes data.
4. Our in-house laboratory evaluates tumors without making assumptions on histology; genes and mutations are evaluated consistently.
5. Test results are summarized in a report highlighting the specific mutations found within that tumor.

When should you use SearchLight DNA™?

SearchLight DNA can be used for *any* case in which you and your client want all possible information on a tumor. This includes common canine cancers, such as mast cell tumors, lymphomas, and osteosarcomas. The test is also useful for identifying targeted therapy options for a particular case.

SEARCHLIGHT DNA IS PARTICULARLY USEFUL FOR THESE CASES

CASES	EXAMPLE
Poorly differentiated tumors	Undifferentiated round cell tumors
Tumors with an uncertain diagnosis	Amelanotic melanoma vs oral sarcoma
Tumors in uncommon locations	Mammary melanoma or retropharyngeal hemangiosarcoma
Tumors in which a standard of care does not currently exist	Splenic liposarcoma
Tumors in which there are no effective chemotherapy treatment options	Metastatic hemangiosarcoma
Tumors that have progressed despite standard-of-care treatment	Apocrine gland anal sac adenocarcinoma with local or distant progression
Metastatic lesions in unexpected or uncommon locations	Thyroid carcinoma that metastasized to the spleen
Pet owner preference	Pet owners who do not want to pursue injectable chemotherapy, preferring oral therapy options

Summary of relevant drug information to guide treatment

We collect all available information on any targeted drugs that match identified canine tumor mutations, including:

- Pharmacokinetics
- Safety and/or dosing
- Toxicology
- Drug resources

We also have strategic collaborations with institutions to conduct genomic and drug clinical trials.

Information on your patient's tumor is powered by Vidium Insight™

Vidium Insight is a proprietary knowledge database, combining extensive literature, mutation, and outcomes databases. To date, Vidium Insight has curated from...

145 articles describing mutation-based associations, *yielding*

> 1,400 biomarker associations *from*

> 5,000 dogs *across*

48 tumor types

> 400 human oncology articles *yielding*

> 1,000 "caninized" biomarker associations

> 100 scientific journals

...and these numbers will only increase!

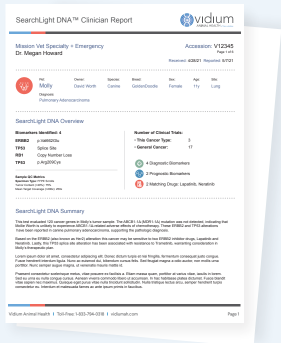
What samples are needed to run a SearchLight DNA™ test?

SearchLight DNA can be run on samples submitted in the following forms and quantities:

FINE-NEEDLE ASPIRATE (FNA) SAMPLES	
FNA SLIDES	›5 unstained or stained slides with 1 Diff-Quik slide
FNA LIQUID	›0.5 mL in sterile vial/tube with no additives
BIOPSY SAMPLES	
FFPE SCROLLS	10 x 10-micron sections with 1 adjacent H&E slide
UNSTAINED FFPE SLIDES	10 x 10-micron sections with 1 adjacent H&E slide
BONY TUMOR	Please submit a non-decalcified sample or allow us to coordinate with the pathology lab to select an appropriate sample.

FFPE = formalin-fixed, paraffin-embedded
H&E = hematoxylin and eosin

What information is contained in a SearchLight DNA report?



SearchLight DNA™ Clinician Report

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Mission Vet Specialty + Emergency
Dr. Megan Howard

Accession: V12345
Page 1 of 6
Received: 4/28/21 Reported: 5/7/21

Pet:	Owner:	Species:	Breed:	Sex:	Age:	Site:
Molly	David Worth	Canine	GoldenDoodle	Female	11y	Lung

Diagnosis:
Pulmonary Adenocarcinoma

SearchLight DNA Overview

Biomarkers Identified: 4

ERBB2	p.Val662Glu
TP53	Splice Site
RB1	Copy Number Loss
TP53	p.Arg209Cys

Sample QC Metrics
Specimen Type: FFPE Scrolls
Tumor Content (>20%): 75%
Mean Target Coverage (>200x): 250x

Number of Clinical Trials:
- **This Cancer Type:** 3
- **General Cancer:** 17

4 Diagnostic Biomarkers
2 Prognostic Biomarkers
2 Matching Drugs: Lapatinib, Neratinib

SearchLight DNA Summary

This test evaluated 120 cancer genes in Molly's tumor sample. The ABCB1-1Δ (MDR1-1Δ) mutation was not detected, indicating that Mollie Worth is unlikely to experience ABCB1-1Δ-related adverse effects of chemotherapy. These ERBB2 and TP53 alterations have been reported in canine pulmonary adenocarcinoma, supporting the pathologic diagnosis.

Based on the ERBB2 (also known as Her2) alteration this cancer may be sensitive to two ERBB2 inhibitor drugs, Lapatinib and Neratinib. Lastly, this TP53 splice site alteration has been associated with resistance to Trametinib, warranting consideration in Molly's therapeutic plan.

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Veterinarians who order SearchLight DNA will receive a complete report 9–12 days after the tumor sample arrives at our laboratory. Information contained in each report includes:

- Genomic mutation information, including diagnostic, prognostic, and therapeutic biomarkers
- A list of targeted therapeutic drug(s), if the patient's tumor mutations are a match for an existing drug
- Pharmacologic marker (MDR1) mutation status with gene summary
- Clinical trials available for the patient's cancer type
- References
- Assay description and genes/mutations evaluated

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Vidium offers exceptional customer service

Vidium is available at every step of the process—from order to sample processing to post-report. We will do all the legwork in getting the samples from your lab or another pathology lab. Medical oncologists, pathologists, and genomic scientists are all on staff to answer any questions you have.

ABOUT VIDIUM ANIMAL HEALTH®

Vidium is dedicated to providing veterinarians with the very best technology and insight to confidently diagnose and treat pets with cancer.

We are proud to be incubated within the Translational Genomics Research Institute (TGen, an affiliate of City of Hope), a leader in the genomics revolution committed to advancing areas of genetics in human and animal health.

Join us in creating a better tomorrow for dogs with cancer. Learn more about SearchLight DNA™ at www.vidiumah.com

Reference: 1. Wong S, Warrier M, Byron S, et al. Design, analytical validation and diagnostic yield of a novel canine cancer gene sequencing panel. Poster presentation at the Veterinary Cancer Society 2020 Annual Conference; 2020.