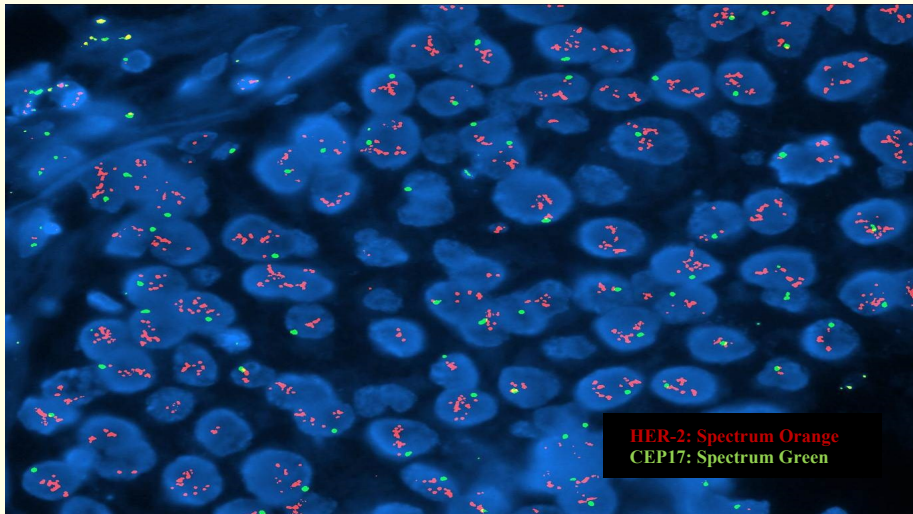


Nebraska Collaborative Laboratory (NCL) for Fluorescence *In situ* Hybridization (FISH) Testing



The Nebraska Collaborative Laboratory (NCL), is a high complexity laboratory performing molecular testing for breast cancer, lung cancer and sarcomas via Fluorescence *in situ* hybridization (FISH) techniques.

Hybridization refers to the binding or annealing of complementary DNA or RNA sequences that serve as probes. With this approach, specific nucleic acid sequences can be detected in morphologically preserved chromosomes or nuclei from fresh, frozen or fixed (paraffin-embedded) tissues. Molecular cytogenetic assays typically are performed with chromosome-specific probes labeled with fluorescent dyes such as fluorescein and detected with fluorescence microscopy.

FISH testing provides supplemental diagnostic information, based on a patient's tumor DNA, to determine the most effective course of treatment with the least amount of side effects. "The assessment of gene alterations by molecular approaches, such as FISH, has revolutionized the care of patients with specific types of cancers," Dr. Bridge said. "Increasingly, more cancer treatments are becoming available that are based on the genetic alterations or defects that are believed to cause that cancer to grow. To pinpoint 'targeted therapies' that interfere with tumor growth and progression, the associated molecular target must first be identified in the patient's tumor sample."

This is where the NCL will come into play. For example, the examination for the presence of too many copies of a gene called ERBB2 (HER2) by FISH in the tumor cells of a patient with breast cancer is critical to selecting the appropriate medicine (HER2 targeted therapy) for that patient.

"Molecular characterization of many different cancer types by FISH also provides vital diagnostic information that is carefully integrated with traditional pathology for the most precise classification and guidance of treatment recommendations," Dr. Bridge said.

Address for Shipping Samples:

Regional Pathology Services
University of Nebraska Medical Center
981180 Nebraska Medical Center
Omaha, NE 68198-1180

CALL US FOR PRE-PAID SHIPPING AND INSTRUCTIONS:
www.reglab.org/ 1-800-334-0459

State of the Art Testing Services

- Fast Turnaround Time
- Enhanced Communications Between Experts in the Field
- Low Cost
- Improved Patient Care

Specimen Requirements:

For FISH analysis of paraffin embedded tissue, please send:

- Formalin-fixed, paraffin embedded tumor tissue block.
- Or for each chromosomal target 1 hematoxylin-and-eosin (H&E) stained slide and 2-3 unstained slides with 4-5 micron thick sections of formalin-fixed, paraffin embedded tissue on positively charged (+) slides, sectioned proximal to the H&E.
- Note: Paraffin embedded tissue that has been decalcified is not appropriate for FISH.
- A copy of the pathology report.
- Store and ship specimens at room temperature (20-23.5°C)



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