

Anatomic Pathology Fluorescence In Situ Hybridization (FISH) Laboratory

Services offered:

Custom FISH probe development

Our laboratory develops custom locus / gene-specific (novel / non-commercially available) fluorochrome-labeled DNA probes for detection of gene copy number alterations (deletions or amplifications). Translocation-detecting dual-color probe cocktails (fusion or break-apart format) can also be developed.

FISH probe development includes:

- 1) **Identification of appropriate Bacterial Artificial Chromosome (BAC) clone(s)** through online database assessment for coverage of corresponding gene / chromosomal locus supplied by requesting researcher
- 2) **Culture growth and BAC-extraction** - Bulk BAC culture growth and BAC-specific DNA extraction and purification (for isolation of probe DNA for fluorochrome labeling)
- 3) **Fluorochrome labeling** - labeling of probe with fluorochrome (FITC, rhodamine, or other) conjugated nucleotides via Nick-Translation Labeling procedure
- 4) **FISH probe validation** including
 - a) Localization by mapping the signals on metaphase spreads obtained from normal controls
 - b) Analytic validation – determination of hybridization efficiency, lack of cross hybridization, and signal enumeration on normal controls
 - c) Calculations of Normal Reference Ranges vs. abnormal cutoff percentages- a conservative cutoff percentage, above which we consider to be an abnormal result based on a 99% confidence interval (3 standard deviations) is determined.

FISH hybridization assay

We can perform FISH hybridization assays on both cell cultures and formalin-fixed paraffin-embedded tissue samples, including tissue microarrays.

FISH hybridization interpretation

Samples will be independently analyzed by two individuals with extensive experience in FISH assay interpretation. Normal reference ranges and abnormal cutoff percentages will be determined prior to analysis of test samples.

Contact Information:

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