**UW Medicine - Pathology**

400-04-01-01

Fluorescence in Situ Hybridization (FISH) Probe Usage Guidelines Procedure

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| Adopted Date: 01/26/05  Review Date: 06/12/09  Revision Date: 3/5/2013 |

PURPOSE

To assist in appropriately choosing FISH probes based on desired outcome

PROCEDURE

### Probe Storage and Organization

FISH probes are classified into following categories: Centromere, Unique sequence, Telomere, and Cocktail. FISH probes are located in the NW125 FISH freezer or refrigerator (DAKO).

All FISH probes are kept in 10x10 grid plastic boxes in the –20°C freezer by probe type; unless specified to keep in the refrigerator by manufacturer’s requirements. All probes requiring preparation before use are pre-mixed with the appropriate volume per vial of probe with buffer and water. Premixed probes are labeled as such.

### Probe Definition and Numbering

A probe is defined as one tube with one manufacturer’s catalog number. There is a number for each probe in use that is generated by our lab and is tracked in the *GCS* database.

### Probe Information and Inventory

* + - 1. Probe validation information is kept in FISH notebooks located in the FISH area of the lab.

### Probe Inventory Control

* + - 1. There should be only one unique probe tube in the probe boxes labeled “in use”. Replace any probes that are used up (or failed) with the oldest identical probe from the back stock box and label with the same probe number. Order a replacement probe if needed.
      2. Whenever a new probe is received, the lot# and expiration date should be compared with the old one. **Note:** **The probe needs to be validated if the lot number is different.**
      3. Probes that are verified as failed must be labeled “failed” and moved to the “Expired Probe” box. Record the details of the failure and do not use on a clinical sample.
      4. Before a new lot is used, the probe must be validated (see below).

### Validation

* + - 1. The validation of the new lot should confirm that:
         1. The tested probe is correctly labeled and shows the expected hybridization site(s).
         2. No unknown probe is contaminating that lot.
         3. Unexpected or significant cross hybridization is not present.
      2. Probe validation should be confirmed by scoring a minimum of 5 metaphase cells using sequential G-banding or reverse DAPI. Score using a probe validation sheet and capture one cell. Give all hard copies to the FISH specialist to file in the FISH Validation notebooks.

Written By: Director Approval:

(Signature and Date) (Signature and Date)

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Cytogenetics Supervisor

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**SIGNATURE PAGE FOR POLICIES AND PROCEDURES**

Procedure / Policy Title: Fluorescence in Situ Hybridization (FISH) Probe Usage Guidelines

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| Medical Director or Designee Print | Medical Director or Designee Signature | Date Reviewed |

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