

Cancer Cytogenetics & Molecular Diagnostics Laboratories

University Health Network / Department of Pathology

Toronto General Hospital
Eaton Wing 11-444, 200 Elizabeth Street
Toronto, Ontario M5G 2C4
Cytogenetics Laboratory Tel: (416) 340- 4800 x 5725
Molecular Diagnostics Laboratory Tel: (416) 340- 4800 x 5739
Fax: (416) 340-3596
Hours of Operation (Mon.-Fri.): 8:30AM-4:30PM
Director: Suzanne Kamel-Reid, PhD, FACMG
Molecular Geneticist: Cuihong Wei, PhD, FCCMG CAP#: 7175217

Patient Information or Hospital Stamp Here

Last name:
First name:
Date of birth (DD/MM/YYYY):
Sex:
Health card number:
Hospital number:

Instructions

1. Complete all information as requested
2. **Send requisition with specimen to TGH 3 East (Eaton) Wing, 3-347**
3. Keep specimen at **Room Temperature** unless frozen
4. If shipping, send same day or next day delivery
5. Specimen labeling: Name, DOB and MRN#

Information for Reporting

Name of ordering physician:
Address:

Phone: Fax:

Clinical Information

Reason for Referral

Current Status of Patient

- First sample at diagnosis
- Follow-up

On Chemo (specify type)_____ (wks/mos/yrs)_____

Comments/clinical details:

- Ethnicity
- Predictive / Presymptomatic
- Carrier screen
- Family history? Yes _____ No _____

- > Pedigree name / number:
- > Relationship to proband:
- > Family mutation if known:

Sample Information

Molecular Diagnostics

- Peripheral blood
20 cc in **EDTA** for leukemia/lymphoma
10 cc in **EDTA** for all others
- Bone marrow from a relocated needle
1-2 cc in **EDTA**
- Bone core biopsy 5-10 mm in **sterile** medium or saline
- KRAS testing:** Metastatic colon carcinoma 0.25mm²
 - > Cut 5 unstained sections @ 7µm thickness on uncoated slides (Minimum tissue size should be 0.25mm². If smaller, 10 sections are required.)
 - > Air-dry unstained sections at room temperature. Do not dry in oven.
 - > After cutting unstained sections, cut an H&E @ 4 µm and circle the tumor on this H&E stained slide.
 - > Orient all unstained and stained sections in the same way.
 - > Store all slides at room temperature and send within 5-7 days of cutting.
 - > A copy of the Pathology report **and** a letter from the oncologist indicating that this patient is being considered for anti-EGFR therapy **must** be sent with the sample.

- Paraffin embedded tissue: 10X10 µm sections in eppendorf tube
- Solid tumor / lymph node
5 mm³ frozen or in 10 ml **sterile** medium
- Cultured cells: 10⁷ proliferating cells
- CSF: As much as possible
- FNA: As much as possible

Cytogenetics

- Peripheral blood
10 cc in **sodium heparin**
- Bone marrow from a relocated needle
1-2 cc in **sodium heparin**
- Bone core biopsy 5-10 mm in **sterile** medium or saline (cannot be used for FISH)
- Paraffin Embedded Tissue (FISH)
3 x 20 µm sections in eppendorf tube

Collection date/time:
Collected by:

Lab consultation needed for any alternate specimen type

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Cytogenetics Test(s) Requested

- Karyotyping analysis (Specify _____)
- Specify FISH:
 - BCR/ABL1 (Specify CML or ALL _____)
 - MLL (Specify ALL or AML _____)
 - MYC (Specify Burkitt's or other _____)
 - Diffuse large B cell lymphoma:
(Specify BCL6, BCL2 or MYC _____)
 - Anaplastic large cell lymphoma: ALK
 - MALT lymphoma: MALT1, Trisomies 3 and 18.
 - Mantle cell lymphoma: CCND1
 - Follicular lymphoma: BCL2
 - Breast cancer: HER-2/neu
 - Sarcoma: EWSR1
- FISH panels:
 - CLL

Hereditary Disorders

- Thrombosis:
 - Factor V (Leiden) / FII (G20210A)
 - MTHFR C677T (if homocysteine measured)
- Hemochromatosis (HFE Cys282Tyr and His63Asp)
- Malignant hyperthermia: RYR1
- Alpha thalassemia: HBA
- Hereditary amyloidosis: TTR, FGA, LYZ, APOA1

Identity Test (15 STRs and amelogenin XY loci)

- BMT monitoring
- Specimen matching

Molecular Oncology Test(s) Requested

- Lymphoma
 - B-cell neoplasia
 - B-cell clonality
 - BCL2
 - T-cell neoplasia: T-cell clonality
- Solid tumors
 - Oligodendroglioma: LOH of 1p and 19q
Note: Need 10mL peripheral blood as well as tissue
 - Papillary thyroid carcinoma: BRAF
 - Metastatic colon carcinoma: KRAS
 - GIST: KIT, PDGFR α
 - Synovial sarcoma: t(X;18)
- Virus detection and/or typing
 - HHV8
 - EBV
 - Qualitative
 - Quantitative
 - HPV
- CML, ALL
 - BCR/ABL1 t(9;22)
 - ABL1 kinase domain mutation
 - T315I only
- ALL, AML
 - TEL/AML1 t(12;21)
 - MLL/AF4 t(4;11)
- AML
 - AML1/ETO t(8;21)
 - PML/RARA t(15;17)
 - CBF β /MYH11 Inv(16) or t(16;16)
 - FLT3 (ITD & D835 mutations)
 - NPM1
- Mastocytosis: KIT (require BM only)
- Hypereosinophilic syndrome, CEL: FIP1L1/PDGFR α
- JAK2 V617F (Specify PV _____ ET _____ or MF _____)