

# Molecular Oncology Test Requisition Form

Internal Use Only Accession #: \_\_\_\_\_

For Paraffin Embedded Tissue samples, fax completed form to Surgical Pathology at (212) 305-2301  
For Hematological and other samples, fax completed form to the PGM Laboratory at (212) 342-0420

PATIENT INFORMATION:	
LAST NAME:	FIRST NAME: M.I.:
DATE OF BIRTH:	MRN: GENDER: <input type="checkbox"/> MALE <input type="checkbox"/> FEMALE
ADDRESS:	
CITY, STATE & ZIP:	
HOME PHONE:	WORK PHONE:
INSURANCE INFORMATION:	
NAME OF POLICY HOLDER:	DATE OF BIRTH:
RELATIONSHIP TO PATIENT: <input type="checkbox"/> SELF <input type="checkbox"/> PARENT <input type="checkbox"/> SPOUSE <input type="checkbox"/> CHILD <input type="checkbox"/> OTHER	
NAME & ADDRESS OF INSURANCE COMPANY:	
POLICY NUMBER:	GROUP NUMBER:
SECONDARY INSURANCE CARRIER:	NAME OF POLICY HOLDER:
POLICY NUMBER:	GROUP NUMBER:
<b>CREDIT CARD:</b> I have provided my credit card information to the Pathology Billing Office (call 212-305-7399 to provide card information). <input type="checkbox"/>	
<b>PREAUTHORIZATION:</b> If your health insurance requires preauthorization, check here if preauthorization is pending: <input type="checkbox"/>	

ORDERING PHYSICIAN INFORMATION:	
LAST NAME:	FIRST NAME: M.I.:
INSTITUTION:	NPI #:
ADDRESS:	
CITY, STATE & ZIP:	
TELEPHONE NUMBER:	FAX NUMBER:
EMAIL ADDRESS:	
SIGNATURE:	DATE:
<b>INSTITUTIONAL BILLING:</b> Do you have a PGM Billing Account? <input type="checkbox"/> Yes P.O. # _____ <input type="checkbox"/> No (Email <a href="mailto:PGMinquiry@cumc.columbia.edu">PGMinquiry@cumc.columbia.edu</a> to establish an account)	

TISSUE / SAMPLE INFORMATION (see next page for details)	
<input type="checkbox"/> <b>BLOOD IN EDTA</b> (Lavender top tube, 3-5ml room temp or refrigerated)	
<input type="checkbox"/> <b>BONE MARROW IN EDTA</b> (Lavender top tube, 0.5-2 ml room temp or refrigerated)	
<input type="checkbox"/> <b>PARAFFIN EMBEDDED TISSUE</b> slides only (ship at room temp); blocks are not accepted	
Pathology Specimen ID Number: _____ # Unstained Slides: _____	
<input type="checkbox"/> <b>OTHER:</b> _____ (Call before sending sample. Fresh Tissue is NOT accepted in the Laboratory.)	
DATE SPECIMEN COLLECTED: / /	TIME: _____ AM PM
DATE ORDERED:	

CLINICAL INFORMATION:	
<input type="checkbox"/> Possible Diagnosis of _____	Other Relevant Clinical Information:
<input type="checkbox"/> History of _____	<b>ICD 10 Code(s):</b>

TEST ORDERED (FILL IN COMPLETELY):	
HEMATOLOGY/ONCOLOGY TESTING	
<input type="checkbox"/> TERT Promoter Mutation	<input type="checkbox"/> Immunoglobulin Heavy Chain (IgH) Rearrangement
<input type="checkbox"/> MGMT Methylation Assay	<input type="checkbox"/> TCR-beta (TCRB) Rearrangement
<input type="checkbox"/> Microsatellite Instability Testing (MSI)	<input type="checkbox"/> BCR-ABL1 (by RT-PCR) <input type="checkbox"/> P190 (QUANTITATIVE) <input type="checkbox"/> P210 (QUANTITATIVE W/ IS)
	<input type="checkbox"/> FLT3-ITD <input type="checkbox"/> NEW DX (RUSH) <input type="checkbox"/> FOLLOW-UP <input type="checkbox"/> IDH1/IDH2 <input type="checkbox"/> DNA/RNA Storage Molecular Oncology - <i>HEMETH ONLY</i>
NGS PANEL TESTING	
<input type="checkbox"/> <b>Columbia Solid Tumor Panel (CSTP)</b> Full 48 gene panel <b>Disease-specific subpanels:</b> <input type="checkbox"/> <b>LUNG:</b> BRAF, EGFR, ERBB2, FBXW7, GNAQ, GNA11, KEAP1, KRAS, MET, PIK3CA, POLD1, POLE, STK11 <input type="checkbox"/> <b>COLORECTAL/PANCREATIC:</b> BRAF, ERBB2, FBXW7, GNAQ, GNA11, KRAS, NRAS, PIK3CA, POLD1, POLE, STK11 <input type="checkbox"/> <b>CHOLANGIOCARCINOMA:</b> BRAF, ERBB2, FBXW7, GNAQ, GNA11, FGFR2, IDH1, IDH2, KRAS, NRAS, POLD1, POLE <input type="checkbox"/> <b>GIST:</b> KIT, PDGFRA <input type="checkbox"/> <b>GLIOMA:</b> BRAF, EGFR, FGFR1/2/3, H3F3A, HIST1H3B, IDH1, IDH2, PIK3CA, PTEN, TERT, TP53 <input type="checkbox"/> <b>HISTIOCYTIC:</b> ARAF, BRAF, KRAS, MAP2K1, NRAS, PIK3CA <input type="checkbox"/> <b>MELANOMA:</b> BRAF, CYSLTR2, EIF1AX, FBXW7, GNAQ, GNA11, HRAS, IDH1, KIT, KRAS, NRAS, PCLB4, RAC1, SF3B1, SRSF2, TERT <input type="checkbox"/> <b>UROTHELIAL:</b> AKT1, CDKN2A, ERBB2, FBXW7, FGFR1/2/3, GNAQ, GNA11, HRAS, KRAS, NRAS, PIK3CA, TERT, TP53 <input type="checkbox"/> <b>THYROID:</b> AKT1, BRAF, CTNNB1, EIF1AX, GNAS, HRAS, KRAS, NRAS, PIK3CA, PTEN, RET, TERT, TP53, TSHR	<input type="checkbox"/> <b>Columbia Targeted Myeloid Panel (TMP)</b> (not for MRD detection) <b>GENE LIST:</b> ABL1, ANKRD26, ASXL1, BCOR, BCORL1, CALR, CBL, CBLB, CBLC, CEBPA, CSF3R, CUX1, DDX41, DNMT3A, ETNK1, ETV6, EZH2, FLT3, GATA2, GNAS, IDH1, IDH2, JAK2, KIT, KMT2A, KRAS, LUC7L2, MPL, NF1, NPM1, NRAS, PHF6, PIGA, PPM1D, PTPN11, RAD21, RUNX1, SETBP1, SF3B1, SH2B3, SMC1A, SMC3, SRSF2, STAG2, TET2, TP53, U2AF1, U2AF2, WT1, ZRSR2
	<input type="checkbox"/> <b>Myeloproliferative Neoplasm Panel (MPN)</b> (not for MRD detection) <b>GENE LIST:</b> ASXL1, CALR, CSF3R, EZH2, IDH1, IDH2, JAK2, KIT, MPL, RUNX1, SETBP1, SRSF2, TET2, TP53, U2AF1
	<input type="checkbox"/> <b>Columbia Targeted Fusion Panel (CTFP)</b> <b>GENE LIST:</b> ALK, AXL, BRAF, EGFR, FGFR1, FGFR2, FGFR3, MET, MYB, NRG1, NTRK1, NTRK2, NTRK3, PDGFRA, PPARG, RET, ROS1, THADA <input type="checkbox"/> <b>NTRK PANEL:</b> NTRK1, NTRK2, NTRK3
	<input type="checkbox"/> <b>Columbia Comprehensive Cancer Panel (CCCP)</b> 467 gene panel Complete list of genes can be found at: <a href="https://www.pathology.columbia.edu/diagnostic-specialties/personalized-genomic-medicine/oncology-testing/columbia-combined-cancer-panel">https://www.pathology.columbia.edu/diagnostic-specialties/personalized-genomic-medicine/oncology-testing/columbia-combined-cancer-panel</a>

## INSTRUCTIONS FOR SUBMISSION OF MOLECULAR ONCOLOGY SPECIMENS

### GENERAL INFORMATION:

No special patient preparation is required. Surgical and cytology specimens should be obtained and labeled as per standard hospital protocols. Pathology specimens not from CUMC should have accompanying pathology reports to ensure identity.

**BLOOD in EDTA:** Lavender top tube, 3-5ml room temperature or refrigerated (do not freeze).

**FFPE:** Formalin Fixed Paraffin Embedded tissue sections should be delivered to PGM at room temperature. Slides should be submitted unbaked and unstained (except for the reference H&E), preferably on uncoated glass slides. **If percentage of tumor nuclei in entire block is greater than minimum for test ordered**, then five 10-micrometer sections collected in 1.5-2ml RNase free microcentrifuge tubes ("PCR tubes") are acceptable/preferable. The slides or tubes should be accompanied by an H&E stained serial section (preferably cut after the 5th blank from the same paraffin block). If an H&E slide is not available, a note from a qualified pathologist indicating that the adjacent H&E slide has been evaluated and it contains at least the amount of tumor cells required, is acceptable. Tumor cell content should be evaluated by a qualified pathologist. Note: if ordering multiple tests, one H&E slide is sufficient.

**Fresh frozen tissue:** Ten 10-micrometer sections in a microcentrifuge tube, kept on dry ice after cutting (if meeting minimum tumor requirements) OR frozen section slides, immediately fixed in cold 100% ethanol or 4% formaldehyde or 4% paraformaldehyde and air-dried after fixation, then immediately delivered to PGM.

**Hematological specimens:** Peripheral blood (PB), bone marrow (BM), or other fluid specimen containing the required percentage of lesional cells (as determined by immunophenotyping). Blood or bone marrow should be EDTA anticoagulated and delivered at room temperature within 24 hours if local or mailed overnight with a wet ice pack. DO NOT FREEZE

**Aspirates:** Extrude any remaining material into Qiagen RNeasy Protect cell reagent. Wash needle after first pass, or if making a second pass for molecular testing, extrude directly into a labeled 2ml tube containing 1.5ml RNeasy Protect cell reagent. Do not extrude more than 0.3ml. Once collected, the sample is stable at room temperature for at least one week and should be received at PGM within a week.

**DNA or RNA:** extracted by a CLIA-certified laboratory. Store at 4°C or lower (DNA) and -60°C or lower (RNA), transport to PGM on wet ice/cold pack (DNA) or dry ice (RNA), together with H&E or pathologist confirmation of tumor content.

**NOTE:** Frozen specimens that arrive thawed, peripheral blood (**PB**) and bone marrow (**BM**) specimens that are visibly altered (hemolyzed, clotted, etc.), unlabeled specimens will be rejected.

### TEST-SPECIFIC INFORMATION:

**Columbia Targeted Fusion Panel (CTFP):** FFPE Sections: Ten 5-micrometer sections containing at least one **5mm x 5mm area** with at least **20% tumor OR** Fresh frozen tissue specimens **OR 100ng** or more, but not less than 10ng of RNA obtained from the above tissue **OR** hematological specimens **OR** cytology specimens containing lesional cells.

**BCR-ABL1 (P210 quantitative and P190 qualitative):** PB or BM aspirates collected in EDTA tube, transported at room temperature, and received at the lab preferably within 24 hours and not later than 36 hours from collection. Only one specimen source, preferably PB, will be used to monitor response to therapy. A minimum of 10 mL is recommended for follow-up samples to achieve adequate test sensitivity.

**IDH1/2:** PB, BM, FFPE five 5-micrometer sections, Fresh frozen tissue, or DNA. Minimum lesional cell percentage: 40%.

**EGFR VIII:** FFPE, five 5-micrometer sections; PCR tube if greater than 40% tumor (PCR tube preferred).

**FLT3-ITD/FLT3 D835, F691; NPM1 and MPN Panel:** PB, or BM, or white blood cell samples (from flow cytometry) with at least **40%** lesional cells either by morphology (blasts), or flow cytometry at AML diagnosis, or following a diagnosed relapse (this is not a test for MRD). **OR** at least **50 ng** of DNA obtained from above tissue.

**IGH and TCRB:** Frozen tissue sections, frozen cells, mononuclear cells, whole blood, fine-needle aspirates, or paraffin sections. Ensure lesional cells are present.

**TERT:** FFPE, five 5-micrometer sections or fresh frozen tissue; minimum tumor percentage: 10%.

**MGMT:** FFPE five 5-micrometer sections; minimum tumor percentage: 40%. Contact laboratory for fresh frozen tissue.

**MSI Microsatellite Instability:** FFPE. Minimum lesional cell percentage for PCR Tube: 50%; otherwise, submit slides. For other specimens: contact laboratory.

**Columbia Solid Tumor Panel (CSTP) & Columbia Combined Cancer Panel (CCCP):** FFPE ten 10-micrometer sections; frozen tissue; aspirates (for CSTP only). Minimum tumor percentage: 10% (CSTP) and 40% (CCCP)

**Targeted Myeloid Panel (TMP) and Myeloproliferative Neoplasm Panel (MPN):** PB or BM, or white blood cell samples (from flow cytometry) or FFPE with at least **20%** lesional cells either by morphology (blasts), or flow cytometry from patients diagnosed with or suspected of myeloproliferative neoplasms, **OR** at least **100 ng** of DNA obtained from above tissue.