Oncology Testing Services
Hematology | Oncology | Lymphoma | Solid Tumor

CHROMOSOME ANALYSIS
- Performed on bone marrow, peripheral blood, lymph node biopsy, solid tumor tissue, and other body fluid specimens
- Identifies numerical and structural chromosomal aberrations with diagnostic and prognostic implications
- Monitors response to therapy, disease progression, and treatment-related secondary malignancies

FLUORESCENCE IN SITU HYBRIDIZATION (FISH)
As new assays are validated, our oncology FISH test menu is continually updated. Visit us online or contact our laboratory with questions regarding probe availability.
- Performed on all oncology specimens accepted by our laboratory
- Detects diagnostic and prognostic aberrations of interest
- Monitors response to therapy and opposite sex transplant status
- Utilizes an indication-specific testing approach for all specimen types
  ◦ Single probes for gene or chromosome of interest
  ◦ Multi-probe panels for specific diagnoses (e.g., ALL, AML, CLL, CML, MDS, MPD, Multiple Myeloma, and Lymphoma [including specific subtypes])
  ◦ Custom probes for rare cancers; including solid tissue tumors
- Allows for STAT results to be communicated to referring health care provider within 24 hours of specimen receipt

MICROARRAY ANALYSIS
- Allows for testing on fresh and fixed specimens, including those specimens of suboptimal quality or with low mitotic indexes
- Provides high resolution, global assessment of the genome
- Detects loss, gain, and amplification of known and novel disease-associated regions of the genome at a higher resolution than Chromosome Analysis and FISH
- Identifies loss of heterozygosity (LOH), which is particularly significant in regions of the genome that contain tumor suppressor genes

INDICATIONS FOR TESTING
Hematologic Disorders / Lymphoma
- Anaplastic large cell lymphoma
- Burkitt lymphoma
- Diffuse large B-cell lymphoma
- Follicular lymphoma
- Leukemias (ALL, AML, CLL, and CML)
- MALT lymphoma
- Mantle cell lymphoma
- Marginal zone lymphoma
- Multiple myeloma and other plasma cell diseases
- Myelodysplastic syndromes (MDS)
- Myeloproliferative disorders (MPD)
- Non-Hodgkin lymphoma
- Waldenström’s macroglobulinemia / lymphoplasmacytic lymphoma

Solid Tissue Tumors
- Bladder cancer
- Bone and soft tissue tumors
- Breast cancer (ERBB2 [HER2/neu])
- Carcinomas
- Neurological cancer, including neuroblastoma
- Sarcomas
### HEMATOLOGY | ONCOLOGY | LYMPHOMA FISH

#### PROBES
- Centromere enumeration
  - 6q21
  - 6q22
  - 15q22
  - 20q12 / 20q13
  - ALK [2p23]
  - ATM [11q22.3]
  - BCL2 [18q21]
  - BCL6 [3q27]
  - BCL6 [3q27] / 3 centromere
  - BCR / ABL1 [t(9;22)] / LSI 9q34
  - BIRC3 (API2) / MALT1 [t(11;18)]
  - CBF8 [16q22]
  - CCND1 [11q13]
  - CCND2 [12p13]
  - CCND3 [6p21.11]
  - CDKN2A (P16) [9p21]
  - CDKN2C [1p32.3] / CKS1B [1q21.3]
  - CRLF2 [Xp22.33/Yp11.3]
  - D13S319 [13q14] / 13q34
  - D7S486 [7q31] / 7 centromere
  - EGR1 [q53]
  - ETV6 (TEL) [12p13]
  - ETV6 / RUNX1 (TEL / AML1) [t(12;21)]
  - FGF1R [8p12]
  - FIP1L1 / CHIC2 / PDGFRα [4q12]
  - IG [14q32 abnormalities]
  - IG [BCL2 (t14;18)]
  - IG [CCND1 [t(11;14)]
  - IG [FGFR3 [t(4;14)]
  - IG [MAF [t(14;16)]
  - IG [MAFB [t(14;20)]
  - IG / MALT1 [t(14;18)]
  - IG / MYC / 8 centromere [t(8;14)]
  - IGK [2p11.2]
  - IGL [22q11]
  - IRF4 / DUSP22 [6p25.3]
  - JAK2 [9q24]
  - KMT2A (MLL) [11q23]
  - MALT1 [18q21] / 18 centromere
  - MECOM (EVII) [3q26.2]
  - MLLT10 [AF10] [10p12]
  - MLLT10 [AF10] / PICALM [t(10;11)]
  - MYC [8q24]
  - P2RY8 [Xp22.3/Yp11.3]
  - PBX1 / TCF3 [t11;19]
  - PDGFRB [5q33]
  - PML / RARA [t(15;17)]
  - RUNX1T1 / RUNX1 (ETO / AML1) [t(8;21)]
  - TCL1A [14q32]
  - TP53 [17p13.1]
  - TRA/D (TCR) [14q11.2]
  - TRB (TCRB) [7q34]

#### INDICATION-SPECIFIC TESTING and PANELS

- **Acute Lymphocytic Leukemia/Lymphoma (ALL)**
  - 6q21 / 6q23
  - BCR / ABL1 [t(9;22)] / LSI 9q34
  - CRLF2 [Xp22.33/Yp11.3]
  - ETU / RUNX1 (TEL / AML1) [t(12;21)]
  - ETU (TEL) [12p13]
  - Hyperdiploidy
  - 4 centromere
  - 10 centromere
  - 17 centromere
  - KMT2A (MLL) [11q23]
  - P2RY8 [Xp22.33/Yp11.3]
  - PBX1 / TCF3 [t11;19]
  - PDGFRB [5q33]
  - TRA/D (TCR) [14q11.2]
  - TRB (TCRB) [7q34]

- **Adult B-cell ALL Panel**
  - BCR / ABL1 [t(9;22)] / LSI 9q34
  - CRLF2 [Xp22.33/Yp11.3]
  - KMT2A (MLL) [11q23]

- **Pediatric B-cell ALL Panel**
  - BCR / ABL1 [t(9;22)] / LSI 9q34
  - CRLF2 [Xp22.33/Yp11.3]
  - ETU / RUNX1 (TEL / AML1) [t(12;21)]
  - Hyperdiploidy
  - 4 centromere
  - 10 centromere
  - 17 centromere
  - KMT2A (MLL) [11q23]
  - PDGFRB [5q33]
  - TRA/D (TCR) [14q11.2]
  - TRB (TCRB) [7q34]

- **T-cell ALL Panel**
  - 6q21 / 6q23
  - BCR / ABL1 [t(9;22)] / LSI 9q34
  - CDKN2A [P16] [9p21]
  - TRA/D (TCR) [14q11.2]
  - TRB (TCRB) [7q34]

- **Acute Myeloid Leukemia (AML)**
  - 8 centromere
  - CBFβ [16q22]
  - D7S486 [7q31] / 7 centromere
  - KMT2A (MLL) [11q23]
  - MECCOM (EVII) [3q26.2]
  - MLLT10 (AF10) [10p12]
  - MLLT10 (AF10) / PICALM [t(10;11)]
  - MYC [8q24]

- **Chronic Lymphocytic Leukemia (CLL)**
  - 6q23
  - 12 centromere
  - ATM [11q22.3]
  - D7S486 [7q31] / 7 centromere
  - IG [14q32]
  - IG / CCND1 [t(11;14)]
  - TP53 [17p13.1]

- **Chronic Myeloid Leukemia (CML)**
  - BCR / ABL1 [t(9;22)] / LSI 9q34
  - TP53 [17p13.1] * when concurrent Chromosome Analysis is not performed

- **Eosinophilia**
  - FGFR1 [8p12]
  - FIP1L1 / CHIC2 / PDGFRα [4q12]
  - JAK2 [9q24]
  - PDGFRB [5q33]

- **Lymphoma**
  - 6q21 / 6q23
  - ALK [2p23]
  - BCL2 [18q21]
  - BCL6 [3q27]
  - BIRC3 (API2) / MALT1 [t(11;18)]
  - CCND1 [11q13]
  - CCND2 [12p13]
  - CCND3 [6p21.1]
  - IG [14q32 abnormalities]
  - IG / BCL2 [t(14;18)]
  - IG / CCND1 [t(11;14)]
  - IG / MALT1 [t(11;18)]
  - IG / MYC / 8 centromere [t(8;14)]
  - IGK [2p11.2]
  - IGL [22q11]
  - IRF4 / DUSP22 [6p25.3]
  - MYC [8q24]
  - TClα [14q32]
  - TRA/D (TCR) [14q11.2]
  - TRB (TCRB) [7q34]

- **Marginal Zone**
  - 12 centromere
  - BCL6 (3q27) / 3 centromere
  - D7S486 [7q31] / 7 centromere
  - IG [14q32]
  - MALT1 [18q21] / 18 centromere

- **Non-Hodgkin Lymphoma (NHL)**
  - BCL6 [3q27]
  - IG / BCL2 [t(14;18)]
  - IG / MYC / 8 centromere [t(8;14)]
  - MYC [8q24]
  - TP53 [17p13.1]

- **Multiple Myeloma (MM)**
  - CDKN2C [1p32.3] / CKS1B [1q21.3]
  - D7S486 [7q31] / 7 centromere
  - Hyperdiploidy
  - 9 centromere
  - 11 centromere
  - IG [14q32 abnormalities]
  - IG / CCND1 [t(11;14)]
  - IG / FGF3 [t(4;14)]
  - IG / MAF [t(14;16)]
  - IG / MAFB [t(14;20)]
  - TP53 [17p13.1]

- **Myelodysplastic Syndrome (MDS)**
  - 8 centromere
  - 20q12 / 20q13
  - D7S486 [7q31] / 7 centromere
  - EGR1 [q53]
  - KMT2A (MLL) [11q23]

- **Myeloproliferative Disorder (MPD)**
  - 8 centromere
  - 20q12 / 20q13
  - BCR / ABL1 [t(9;22)] / LSI 9q34
  - D7S486 [7q31] / 7 centromere
  - D13S319 [13q14] / 13q34

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Please call for updates, as our probe inventory and availability is constantly expanding.