

FLUORESCENCE IN-SITU HYBRIDIZATION (FISH) HEMATOLOGICAL DIAGNOSTICS

Please choose and mark the requested probes for the above mentioned patient.

Acute Myeloid Leukemia (AML)

- BCR::ABL1 t(9;22)(q34;q11.2)
- CBF ::MYH11 inv(16)(p13q22)/t(16q22)
- D20S108 (20q12), RH7808 (20q13.3), D8Z2 (deletion 20q, trisomy 8)
- DEK::NUP214 t(6;9)(p22;q34)
- EGR1 (5q31), RPS14 (5q33) with control in 5p15 (5q deletion/monosomy 5)
- KMT2A(MLL) t(11q23)
- KMT2A(MLL)::MLLT1(ENL) t(11;19)(q23.3;p13.3)
- KMT2A(MLL)::MLLT3(AF9) t(9;11)(p21.3;q23.3)
- KMT2A(MLL)::AFDN(MLLT4) t(6;11)(q27;q23.3)
- KMT2E (7q22), D7S522/MET (7q31.2) with control D7Z1 (7q deletion/monosomy 7)
- PML::RARA t(15;17)(q24.1;q21.1)
- RPN1::MECOM t(3;3)(q21.3;q26.2)/inv(3)(q26.2)
- RUNX1T1::RUNX1 t(8;21)(q22;q22)
- TP53 (17p13) in combination with ATM (11q22) (deletion 17p/11q)

Chronic Myeloid Leukemia (CML)

- BCR::ABL1 t(9;22)(q34;q11.2)
- TP53 (17p13.1) in combination with ATM (11q22.3) (deletion 17p/i(17q))

Myelodysplastic Neoplasia (MDS)

- Complete MDS panel (deletion 5q/monosomy 5, deletion 7q31/monosomy 7, trisomy 8, deletion 12p, deletion 17p/i(17q), deletion 20q12, trisomy 21, -Y)
- D20S108 (20q12), RH7808 (20q13.3), D8Z2 (deletion 20q, trisomy 8)
- ETV6::RUNX1 (deletion 12p; deletion 21q22/trisomy 21)
- EGR1 (5q31), RPS14 (5q33) with control in 5p15 (deletion 5q/monosomy 5)
- KMT2E (7q22), D7S486 (7q31) with control D7Z1 (deletion 7q/monosomy 7)
- TP53 (17p13) in combination with ATM (11q22) (deletion 17p/i(17q), deletion 11q)
- Loss Y-chromosome (DYZ3)

Chronic Myeloproliferative Neoplasias/ Chronic Myelomonocytic Leukemia/ Chronic Eosinophilic Leukemia/Hyper-eosinophilic Syndrome (MPN/CMMI/CEL/HES)

- BCR::ABL1 t(9;22)(q34;q11.2)
- ETV6::RUNX1 (deletion 12p/ETV6-rearrangement)
- D20S108 (20q12), RH74808 (20q13.3), D8Z2 (deletion 20q/trisomy 8)
- FGFR1 t(8p11)
- JAK2 t(9p24)
- KMT2E (7q22), D7S522/MET (7q31.2) with control D7Z1 (7q deletion/monosomy 7)
- PCM1::JAK2 t(8;9)(p22;q24)
- PDGFRA/CHIC2/FIP1L1::PDGFR-rearrangement
- PDGFRB t(5q32)
- TP53 (17p13) in combination with ATM (11q22) (deletion 17p/i(17q), deletion 11q)

Chronic Lymphocytic Leukemia (B-CLL)/ Small Lymphocytic Lymphoma (SLL)/ Lymphoplasmocytic Lymphoma Waldenstrom Macroglobulinemia

- Complete B-CLL panel (deletion 6q23, deletion 11q22, trisomy 12, deletion 13q14, deletion 13q34, IGH-rearrangement t(14q32), deletion 17p13)
- ATM (11q22) and TP53 (17p13) (deletion 11q, deletion 17p)
- BCL3 t(19q13)
- CCND1::IGH t(11;14)(q13;q32)
- Centromere 12, DLEU (13q14), LAMP1 (13q34) (trisomy 12, deletion 13q14, deletion 13q)
- IGH t(14q32)
- IGH::BCL2 t(14;18)(q32;q21)/trisomy 18
- MYB (6q23) with controls in 6q21(SEC63) and D6Z1

Non-Hodgkin-Lymphoma (NHL)/ B-Cell-Lymphoma (B-NHL)

- Complete NHL panel (deletion 6q23, deletion 11q22, trisomy 12, deletion 13q14, deletion 13q34, IGH-rearrangement t(14q32), deletion 17p13)
- ALK t(2p23) in ALK+ DLBCL
- ATM (11q22) and TP53 (17p13) (deletion 11q, deletion 17p)
- BCL3 t(19q13)
- BCL6 t(3q27)/gain 3q
- CCND1::IGH t(11;14)(q13;q32)
- CCND3::IGH t(6;14)(p21;q32)
- Centromere 12, DLEU (13q14), LAMP1 (13q34) (trisomy 12, deletion 13q14, deletion 13q)
- IGH t(14q32)
- IGH::BCL2 t(14;18)(q32;q21)/gain 18q
- MALT1 t(18q21)
- MYB (6q23) with controls in 6q21(SEC63) and D6Z1
- MYC t(8q24)/gain 8q24

T-Cell-Lymphoma (T-NHL)

- ATM (11q22.3) and TP53 (17p13.1) (deletion 11q, deletion 17p)
- ETV6::RUNX1 (deletion 12p)
- MYC t(8q24)/gain 8q24
- TCR α/δ t(14q11)

Plasma Cell Myeloma/ Multiple Myeloma/MGUS

For FISH analysis, "magnetic activated cell sorting" (MACS) will be initially performed to isolate CD138+ plasma cells

- Complete plasma cell disease panel (deletion 1p32.3, amplification 1q21, deletion/gain 11q22, trisomy 12, deletion 13q14, deletion 13q34, monosomy 13, IGH-rearrangement t(14q32), deletion 17p13)
- Aneuploidies of the chromosomes 5 (5p15), 9 (9q22), 15 (15q22)
- ATM (11q22) and TP53 (17p13) (deletion/gain 11q, deletion 17p)
- CKS1B (1q21), CDKN2C (1p32.2) (deletion 1p/amplification 1q)
- CCND1::IGH t(11;14)(q13;q32)
- CCND3::IGH t(6;14)(p21;q32)
- Centromere 12, DLEU (13q14), LAMP1 (13q34) (deletion 13q/monosomy 13)

- FGFR3::IGH t(4;14)(p16;q32)
- IGH t(14q32)
- IGH::MAFA t(14;16)(q32;q23)
- IGH::MAFB t(14;20)(q32;q12)
- MYC::IGH t(8;14)(q24;q32)

Acute Lymphoblastic Leukemia/B-Cell Acute Lymphoblastic Leukemia (B-ALL)

- Aneuploidies of the chromosomes 4 (D4Z1), 10 (D10Z1), 17 (D17Z1)
- BCR::ABL1 t(9;22)(q34;q11.2)
- CDKN2A (p16, 9p21) with control CEP9 (deletion 9p)
- ETV6::RUNX1 t(12;21)(p13;q22)
- ETV6::RUNX1 (deletion 12p/amplification RUNX1)
- IGH t(14q32)
- KMT2A(MLL) t(11q23)
- KMT2A(MLL)::AFF1(AF4) t(4;11)(q21.3-q22.1;q23.3)
- KMT2A(MLL)::MLLT1(ENL) t(11;19)(q23.3;p13.3)
- KMT2A(MLL)::AFDN(MLLT4) t(6;11)(q27;q23.3)
- MYC t(8q24)
- MYC::IGH t(8;14)(q24;q32)
- TCF3::PBX1 t(1;19)(q23;p13.3) with HLF (17q22)

T-Cell Acute Lymphoblastic Leukemia (T-ALL)

- BCR::ABL1 t(9;22)(q34;q11.2)
- CDKN2A (p16, 9p21) with control CEP9 (deletion 9p)
- KMT2A(MLL) t(11q23)
- TCR α/δ t(14q11)

Severe Aplastic Anemia (AA)

- Centromere 12, DLEU (13q14), LAMP1 (13q34) (trisomy 12, deletion 13q14, deletion 13q)
- D20S108 (20q12), RH7808 (20q13.3), D8Z2 (deletion 20q, trisomy 8)
- EGR1 (5q31), RPS14 (5q33) with control in 5p15 (deletion 5q/monosomy 5)
- KMT2E (7q22), D7S522/MET (7q31.2) with control D7Z1 (7q deletion/monosomy 7)

Chromosome X- and Y-specific FISH after BMT

- Chromosome X- and Y-specific probes (DXZ1, DYZ3)

Other FISH probes (on request)
