



## NEXT-GENERATION SEQUENCING (NGS) PANELS & INTENDED USE

Please order **only one** NGS panel at a time. For a full list of interrogated genes, please refer to the Test Directory on [clevelandcliniclabs.com](http://clevelandcliniclabs.com).

Panel Name	Order Code, (Specimen Type)	Intended Use	Gene Number (Variants Type)	Variants Detected
Acute Leukemia	<b>HDMNGS</b> (M) <b>HDPNGS</b> (PB) <b>HDONGS</b> (O)	Known or suspected <b>Acute Leukemias</b> (e.g. Acute Lymphoblastic Leukemia – ALL, Acute Myeloid Leukemia – AML, Acute Promyelocytic Leukemia – APL)	<b>63</b> (DNA) <b>107</b> (RNA)	<b>DNA:</b> SNVs, Insertions, Deletions <b>RNA:</b> Gene fusions, Structural Variants
<b>SUBPANELS</b>				
Chronic Myeloid	<b>MYNGSM</b> (M) <b>MYNGSP</b> (PB) <b>MYNGSO</b> (O)	Known or suspected <b>Chronic Myeloid Neoplasms</b> (e.g. MPNs, MDS)	<b>56</b> (DNA)	<b>DNA:</b> SNVs, Insertions, Deletions
Chronic LPD	<b>LPMNGS</b> (M) <b>LPPNGS</b> (PB) <b>LPONGS</b> (O)	Known or suspected <b>Chronic Lymphoproliferative Disorders</b> (LPDs)	<b>7</b> (DNA)	<b>DNA:</b> SNVs, Insertions, Deletions
MPN	<b>MPNM</b> (M) <b>MPNP</b> (PB)	Known or suspected <b>Myeloproliferative Neoplasms</b> (MPNs) – includes <i>JAK2</i> , <i>CALR</i> , <i>MPL</i>	<b>3</b> (DNA)	<b>DNA:</b> SNVs, Insertions, Deletions
Hematologic Neoplasm Fusion	<b>HFMNGS</b> (M) <b>HFPNGS</b> (PB) <b>HFONGS</b> (O)	<b>Fusion-Only Targeted Analysis</b> (e.g. <b>myeloid and lymphoid neoplasms</b> with eosinophilia and abnormalities of <i>PDGFRA</i> , <i>PDGFRB</i> or <i>FGFR1</i> ; <i>BCR-ABL1</i> -negative CML); or, <b>ALLs with insufficient specimen</b> for combined DNA & RNA NGS testing	<b>107</b> (RNA)	<b>RNA:</b> Gene fusions, Structural Variants

(M) = Marrow (PB) = Peripheral Blood (O) = Other: FFPE, Clot sections

SNV = Single Nucleotide Variant(s)

## FLUORESCENCE IN SITU HYBRIDIZATION (FISH) PANELS

Panel Name	Probes	Blood Order Code	Bone Marrow Order Code	Tissue Order Code
FISH for Acute Myeloid Leukemia	t(15;17), t(8;21), inv(16), KMT2A (MLL)	FAMLPN	FAMLPM	
FISH for Aggressive B-Cell Lymphoma	BCL2 (18q21), BCL6 (3q27), c-MYC (8q24) and (8;14)(q24;q32)	FABCFP	FABCBM	FABCEL
FISH for B Lymphoblastic Leukemia (B-ALL)	t(9;22), <i>KMT2A</i> (MLL), t(12;21), 4/10 cen, <i>CRLF2</i> , <i>CRLF2/IGH</i>	FSHLL	FSBLLM	
FISH for Chronic Lymphocytic Leukemia*	17p13 (TP53), 11q22 (ATM), 12 cen, 13q34 (D13S319, LAMP1), 11;14 (IgH/CCND1)	CLLFSH		
FISH for Myelodysplastic Syndrome	5q31 (EGR1), 7q31 (D7S486), 8 cen, 20q12 (D20S108)	FSHMDS	FSMDSM	
FISH for Myeloma**	13q, 17p, 1p/1q, CEP9/CEP15, IgH, IgH/CCND1 (11;14) <i>If an IgH translocation is present that is not IgH/CCND1, then will reflex to IgH/MMSET (4;14) and IgH/MAF (14;16).</i>	FSHPCM		
FISH for Myeloproliferative Neoplasms	t(9;22), 4q12 (PDGFRA), 5q33 (PDGFRB), 8p12 (FGFR1)	MPNFSH	MPNFSM	

\*Peripheral blood only \*\*Plasma cells only

## FISH PROBES (For a full list of FISH probes, please refer to the Test Directory on [clevelandcliniclabs.com](http://clevelandcliniclabs.com))

Test Name	Gene(s)	Location	Blood Order Code	Bone Marrow Order Code	Tissue Order Code
FISH for BCL2	<i>BCL2</i>	18q21	BCL2FH	BCL2FM	BCL2FT
FISH for BCL6	<i>BCL6</i>	3q27	BCL6FH	BCL6FM	BCL6FT
FISH for BCR/ABL1	<i>BCR/ABL1</i>	t(9;22)	BCRFSH	BCRFSM	
FISH for BIRC3/MALT1	<i>BIRC3/MALT1</i> ( <i>API2/MALT1</i> )	t(11;18)			T1118
FISH for CBFβ/MYH11	<i>CBFB</i>	inv(16)	INV16F	INV16M	
FISH for CCND1	<i>CCND1</i>	11q13	CCND1F	CCND1M	CCND1T
FISH for del (5q)	<i>EGR1</i>	5q31	5QFSH	5QFSBM	
FISH for del (7q)	<i>D7S486</i>	7q31	FISH7Q	FSH7QM	
FISH for DUSP22/IRF4	<i>DUSP22/IRF4</i>	6p25.3			DUIRFH
FISH for ETV6/RUNX1	<i>ETV6/RUNX1</i> ( <i>TEL/AML1</i> )	t(12;21)	1221FH	1221FM	
FISH for FGFR1	<i>FGFR1</i>	8p12	FGFR1F	FGFR1M	
FISH for IGH/BCL2	<i>IGH/BCL2</i>	t(14;18)	FSHFCL	FSFCLM	T1418
FISH for IGH/CCND1	<i>IGH/CCND1</i>	t(11;14)	FSHFCL	FSMCLM	T1114
FISH for IGH/MYC/CEP8	<i>IGH/MYC</i>	t(8;14)	814FSH	814FSM	T814
FISH for MALT1	<i>MALT1</i>	18q21			MALT1
FISH for MLL	<i>MLL</i>	11q23	MLLFSH	MLLFBM	
FISH for MYC(8q24)	<i>MYC</i>	8q24	MYCFSH	MYCFSM	MYC
FISH for PDGFRA	<i>PDGFRA</i>	4q12	PDGFRA	PGFRAM	
FISH for PDGRRB	<i>PDGRRB</i>	5q33	PDGFRB	PDGFBM	
FISH for PML/RARA	<i>PML/RARA</i>	t(15;17)	APLFSH	APLFBM	
FISH for RARA	<i>RARA</i>	17q21	RARFSH	RARFSM	
FISH for 8;21 Translocation for AML	<i>RUNX1/RUNX1T1</i> ( <i>AML1/ETO</i> )	t(8;21)	AMLFSH	AMLFBM	
FISH for Trisomy 4, 10	Trisomy 4/10	4 cen, 10 cen	FHT410	FT410M	
FISH for Trisomy 8, del(20q)	Trisomy 8/D20S108	8 cen, 20q12	20Q8FH	20Q8BM	
FISH for TP63	<i>TP63</i>	3q28			TP63FH