ONCOLOGY

FARABI Medical Laboratory

Hereditary Cancer NGS Panels

#	Test Panels	Time
1	Hereditary Breast & ovarian cancer, BRCA1, BRCA2	4-6 w
2	Hereditary Breast & ovarian cancer panel, 24 genes	4-6 w
3	Hereditary Colon Cancer Panel,23 genes	4-6 w
4	Hereditary Prostate Cancer Panel, 13 genes	4-6 w
5	Comprehensive Hereditary Cancer, 360 genes	4-6 w

Somatic Cancer NGS panels

#	Test Panels	Time
1	ONCOaccu Panel-Comprehensive Solid Tumor NGS panel-344 tarhet Genes sequencing+ TMB+MSI	4-6 w
2	Solid Tumor NGS panel,149 genes	4-6 w
3	MeloidTumor NGS panel, 35 genes	4-6 w
4	GenesWell BCT test-Prognostic, Diagnostic, & Precision Medicine for Breast Cancer	4-6 w

Cytogenetics

#	TEST	Time
1	Chromosome analysis (Karyotype), high-resolution banding technique	2-3 W
2	Chromosome analysis for Mosaicism, 50 cells culture	2-3 W
3	Franconia anemia, Chromosome breakage studies & complementation	3-4 W

Molecular HLA Typing

1	HLA Molecular Typing (A, B, C & DR, DQ), SSP-PCR, low resolution	1-2 W
2	HLA Molecular Typing (A, B & DR), SSP-PCR, low resolution	1-2 W
3	HLA Molecular Typing (A, B, C & DR, DQ), NGS based-High Resolution	4-6 W
4	HLA Molecular Typing (A, B, C & DR, DQ, and DP), NGS based-High Resolution	4-6 W

Oncogenetics

1	B-RAF Mutations	3-5D
2	K-RAS Mutation study	3-5D
3	N-RAS Mutation study	3-5 D
4	EGFR Mutation study	3-5 D
5	DPYD gene study (Pre- treatment by 5fu)	7-14 D
6	H3F3A gene somatic mutations	7-14 D
7	IDH1 gene somatic mutations	7-14 D
8	NF1 Somatic Mutation-Neurofibromatosis	7-14 D

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9	PDGFRa somatic mutation-GIST	7-14 D
10	RET somatic mutations- sporadic medullary thyroid cancer	7-14 D
11	Microsatellite instability (MSI) plus DNA Mismatch Repair study (DMMR) in hereditary colorectal cancer	3-4 W
12	Microsatellite instability (MSI)	3-4 W

Hemato-Oncogenetics

1	t (9;22),Detection & Quantitative(P190KD) BCR-ABL – RT PCR -CML	3-5 D
2	t(9;22), Detection & Quantitative(P210KD) BCR-ABL- RT PCR -CML	3-5 D
3	Imatinib Resistance for CML	2-3 W
4	Panel ALL { t(9;22), t(4;11), t(1;19), t(12;21) } - RT-PCR	2-3 W
5	t (1-19) with E2A-PBX1 fusion gene for in precursor B cell ALL, RT-PCR	7-10D
6	T (4;11) (q21; q23) for ALL, RT-PCR	7-10D
7	t (4-11) with MLL-AF4 fusion gene in various types of leukemia, RT-PCR	7-10 D
8	t (12-21) with TEL-AML1 fusion gene in ALL, RT-PCR	7-10 D
9	t (15;17) with PML-RARA fusion gene for acute promyelocytic leukemia (Qualitative) – RT-PCR	7-10 D
10	t (15;17) with PML-RARA fusion gene for acute promyelocytic leukemia (Quantitative) – RT-PCR	7-10 D
11	Inv (16) with CBFB-MYH11 fusion gene for acute myelomonocytic leukemia – RT-PCR	7-10 D
12	Panel AML { t(9;22), t(8;21), t(15;17), Inv16 } - RT-PCR	7-10 D
13	t (8-21) - (q22;q22) for AML, RT-PCR	7-10 D
14	FLT-3 gene mutations - AML	7-10 D
15	NPM1 gene study - AML	7-10 D
16	DNMT3A gene somatic mutations-AML	7-10 D
17	JAK II mutation for polycythemia Vera and essential thrombocythemia, RT-PCR	2-3 D
18	Jak2 exon 12 - Sequencing	7-10 D
19	SRSF2 gene somatic mutation-MDS/MPN overlap syndromes, especially CMML	7-10 D
20	U2AF1 gene study-MDS	7-10 D
21	CLL-MLPA	1-2 W

Hematology and *Coagulopathies*

1	Inversion 22 in F8 gene	4-5 W
2	Inherited Coagulation disorder NGS panel - 20 genes	4-5 W
3	Inherited RBCs Membrane Disorder NGS Pane- 7 Genes	4-5 W
4	Inherited Anemia NGS Panel-85 Genes	4-5 W
5	Inherited Bone marrow failure NGS Pane- 197 Genes	4-5 W

FISH panels

#	Test Panels	Time Day(s)	Sample
1	**FISH 1 probe:** t(9;22),BCR-ABL	2-3W	WB (EDTA) BMA Paraffin block AF-CVS
2	**FISH 2 probe:** Two probe, Her2neu, t(15;17) ,t(8;21) ,inv (16) , MLL, 13q, t(12;21), ATM, MYB, CMYC, t(14;18), NMYC, P53, 12, 10, 4, IGH, BCL2, BCL6, EwingSarcoma, t(14:16), t(14;20), Subtelomericpter&qter, PDGFR, 5q, 2oq, 7q, N-Myc,X_Y, FUS, KMT2A 11q23: 6q21,BCL2, (18q21), BCL6, MALT1, ALK, t(8,:14), CCND1,t(11:14), Microdeletion syndrome, Di George, PraderWilli, Williams, Wolf-Hirschhorn, Smith-Magenis, Miller-Dieker, Angelman, Di George II, Shank3, t(9;22) BCR-ABL	2-3W	WB (EDTA) WB(Heparinized) BMA Paraffin block AF-CVS
3	**FISH 3 probe-panel:** Panel Three probe:Multiple myeloma hyperdiploidy only	2-3W	WB (EDTA) BMA Paraffin block
4	**FISH 4 probe-panel:** Panel Four probe:1p/19q co deletion	2-3W	WB (EDTA) BMA Paraffin block
5	**FISH 5 probe-panel:** Panel Five probe:Myelodysplastic syndrome panel II (rare)	2-3W	WB (EDTA) BMA Paraffin block
6	**FISH 6 probe-panel:** Panel Six probe:Chronic lymphocytic leukemia,aggressive lymphoma(double hit)	2-3W	WB (EDTA) BMA Paraffin block
7	**FISH 7 probe-panel:** Panel Seven probe:Myeloproliferative panel	2-3W	WB (EDTA) BMA Paraffin block
8	**FISH 8 probe-panel:** Panel Eight probe:Eosinophilia,multiple myeloma panel I,myelodysplastic panel I (common)	2-3W	WB (EDTA) BMA Paraffin block
9	**FISH 9 probe-panel:** Panel nine probe	2-3W	WB (EDTA) BMA Paraffin block
10	**FISH 10 probe-panel:** Panel Ten probe:Adult ALL panel, pediatric ALL panel, ph-like ALL, multiple myeloma complete panel, AML with MDS or therapy-related	2-3W	WB (EDTA) BMA Paraffin block

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