



King Hussein Cancer Center

Department of Cell Therapy & Applied Genomics

Department of Cell Therapy & Applied Genomics

Tests List & Specimens Collection Requirements

(IPPLAB~GEN.02/R11 Attach I/R3)

Issue Date September 1st, 2020

Approved by:

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King Hussein Cancer Center

Department of Cell Therapy & Applied Genomics

CTAG Sections Phone Directory

Flow Cytometry	1036
	1778
Cytogenetics	1546
	5171
BMT	1387
	7572
MDI	1032
	5169

CTAG Tests List & Specimens Collection Requirements (IPPLAB-GEN.02/R11 Attach I/R3)

#	Test Name	Collection Requirements	CTAG Section	Turn Around Time	Specimens Special Handling
1.	7-AAD (Cell viability)	2-4.5 ml in EDTA blood tube "Lavender top" fill to mark. For fluid and tissue please contact flow cytometry laboratory	Flow Cytometry Sunday-Thursday: 8:00 am-3:00 pm Otherwise: Contact lab section	24 Hours	Fresh blood, marrow aspirate, tissue, or fluid maximum 48 hrs. at room temperature
2.	Adenovirus (ADV) Qualitative	<ul style="list-style-type: none"> 2 ml peripheral blood in lavender top (EDTA) tube 1-2 ml CSF in sterile Falcon tube 2-5 ml Broncho alveolar lavage (BAL) in sterile cup or Falcon tube 5-10 ml urine in sterile cup 	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> Need sterile container. Stability blood-Ambient: 8 hours; refrigerated: 24 hours. Stability Fluids-Ambient: 8 hours; Refrigerated: 24 hours; Under ice: 3 months
3.	Alpha Thalassemia mutation Analysis	<ul style="list-style-type: none"> 2 - 5 ml EDTA blood tube under ice or 2 ml bone marrow, EDTA on ice 	MDI (8:00 AM -3:00 PM)	20-30 Working days	Stability blood and bone marrow: Ambient: 1 day; Refrigerated 1 week.
4.	Autoimmune lymphoproliferative syndrome (ALPS) Test	2-4.5 ml in EDTA blood tube "Lavender top" fill to mark	Flow Cytometry Sunday-Thursday: 8:00 am-3:00 pm Otherwise: Contact lab section	48 Hours	Fresh Blood Maximum 48 hrs. At Room Temperature
5.	BCR/ABL Qualitative Test	2 ml peripheral blood or bone marrow EDTA "Lavender top" tube	MDI (8:00 AM -3:00 PM)	3-5 Working days	Stability-Ambient: one hour; Refrigerated:24 hours
6.	BCR/ABL1, p190, mRNA Detection, Reverse Transcription-PCR (RT-PCR), Quantitative	<ul style="list-style-type: none"> 2 - 5 ml EDTA blood tube on ice or 2 ml bone marrow, EDTA on ice 	MDI (8:00 AM -3:00 PM)	3-5 Working days	Stability-Ambient: one hour; Refrigerated:24 hours

CTAG Tests List & Specimens Collection Requirements (IPPLAB-GEN.02/R11 Attach I/R3)

#	Test Name	Collection Requirements	CTAG Section	Turn Around Time	Specimens Special Handling
7.	BCR/ABL1, p210, mRNA Detection, Reverse Transcription-PCR (RT-PCR), Quantitative	<ul style="list-style-type: none"> · 2 - 5 ml EDTA blood tube on ice or · 2 ml bone marrow, EDTA on ice 	MDI (8:00 AM -3:00 PM)	3-5 Working days	Stability-Ambient: one hour; Refrigerated:24 hours
8.	Beta Thalassemia mutation Analysis	<ul style="list-style-type: none"> · 2 - 5 ml EDTA blood tube under ice or · 2 ml bone marrow, EDTA on ice 	MDI (8:00 AM -3:00 PM)	20-30 Working days	Stability blood and bone marrow: Ambient: 1 day; Refrigerated 1 week.
9.	CD16+CD56/CD45 (Total NK cells)	2-4.5 ml in EDTA blood tube "Lavender top" fill to mark	Flow Cytometry Sunday-Thursday: 8:00 am-3:00 pm Otherwise: Contact lab section	48 Hours	Fresh blood or maximum 48 hrs. at room temperature
10.	CD19/CD45 (Total B-Cell)	2-4.5 ml in EDTA blood tube "Lavender top" fill to mark	Flow Cytometry Sunday-Thursday: 8:00 am-3:00 pm Otherwise: Contact lab section	48 Hours	Fresh blood maximum 48 hrs. at room temperature
11.	CD20/CD45 (Total B-Cell)	2-4.5 ml in EDTA blood tube "Lavender top" fill to mark	Flow Cytometry Sunday-Thursday: 8:00 am-3:00 pm Otherwise: Contact lab section	48 Hours	Fresh blood maximum 48 hrs. at room temperature

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#	Test Name	Collection Requirements	CTAG Section	Turn Around Time	Specimens Special Handling
12.	CD3/CD4/CD8/CD45 (T-cell subsets)	2-4.5 ml in EDTA blood tube "Lavender top" fill to mark	Flow Cytometry Sunday- Thursday: 8:00 am-3:00 pm Otherwise: Contact lab section	48 Hours	Fresh blood maximum 48 hrs. at room temperature
13.	CD34, ALLO - (PB) (CD34, Allogenic Stem Cell Quantification including CD3-PB)	EDTA tube	Flow Cytometry Sunday- Thursday: 8:00 am-4:00 pm Otherwise: Contact lab section	2 Hours	Room temperature within 24 hours
14.	CD34, AUTO – (PBSC) (CD34, Autologus Stem Cell Quantification - PBSC)	Sterile conical tube	Flow Cytometry Sunday- Thursday: 8:00 am-4:00 pm Otherwise: Contact lab section	2 Hours	Room temperature within 24 hours
15.	CD34, Auto- (PB) (CD34, Autologus Stem Cell Quantification - PB)	EDTA Tube	Flow Cytometry Sunday- Thursday: 8:00 am-4:00 pm Otherwise: Contact lab section	2 Hours	Room temperature within 24 hours

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#	Test Name	Collection Requirements	CTAG Section	Turn Around Time	Specimens Special Handling
16.	CD34,ALLO - (PBSC) (CD34,ALLOGENEIC Stem Cell Quantification, Including, CD3, PBSC)	Sterile conical tube	Flow Cytometry Sunday- Thursday: 8:00 am-4:00 pm Otherwise: Contact lab section	2 Hours	Room temperature within 24 hours
17.	CD4/CD3/CD45 (Helper T-cells)	2-4.5 ml in EDTA blood tube "Lavender top" fill to mark	Flow Cytometry Sunday- Thursday: 8:00 am-3:00 pm Otherwise: Contact lab section	48 Hours	Fresh blood or marrow aspirate or maximum 48 hrs. at room temperature
18.	CD8/CD3/CD45 (Suppressor/Cytotoxic T-Cells)	2-4.5 ml in EDTA blood tube "Lavender top" fill to mark	Flow Cytometry Sunday- Thursday: 8:00 am-3:00 pm Otherwise: Contact lab section	48 Hours	Fresh blood maximum 48 hrs. at room temperature
19.	Chimerism (CHIM)	<ul style="list-style-type: none"> 2 ml peripheral blood or bone marrow in lavender top (EDTA) tube. 2-4 sterile Buccal Swabs stored in a sealed container without gel. 	MDI (8:00 AM -3:00 PM)	5-7 Working Days	<ul style="list-style-type: none"> Stability blood and cord blood- Ambient: 1 week; Refrigerated 1 week. Stability buccal, swab-must be immediately delivered. Stability DNA-Refrigerated or Under ice. Patient should not be blood transfused for at least 1 week before blood drawing

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#	Test Name	Collection Requirements	CTAG Section	Turn Around Time	Specimens Special Handling
20.	Chromosomal Breakage	Depends on age, collect in heparin "Green Top" · Adults: 2-5 ml. BM aspirate and/or Peripheral blood · Children: 2-5 ml. BM aspirate and/or Peripheral blood · Newborns : 1-2 ml. BM aspirate and/or peripheral blood	Cytogenetics Sunday-Thursday 8:00 am – 4:00 pm	5 Days	Room temperature
21.	Clinical Sequencing	· 2 - 5 ml EDTA blood tube under ice or · 2 ml bone marrow, EDTA on ice	MDI (8:00 AM -3:00 PM)	20-30 Working days	Stability blood and bone marrow: Ambient: 1 day; Refrigerated 1 week.
22.	CMV Antigenemia	2-4 ml EDTA blood "Lavender Top Tubes" (10 ml if neutropenic).	BMT Sunday, Tuesday, Wednesday only by 12 noon	24 Hours	Room temperature
23.	Cytogenetics BM Karyotype	Heparin tube, Fresh sample, Room temperature	Cytogenetics Sunday-Thursday 8:00 am – 4:00 pm	21 Days	Room Temperature
24.	Cytogenetics PB Karyotype	Heparin tube, Fresh sample, Room temperature	Cytogenetics Sunday-Thursday 8:00 am – 4:00 pm	21 Days	Room Temperature
25.	Cytomegalovirus (CMV) (Quantitative)	· 2 ml peripheral blood in lavender top (EDTA) tube · 1-2 ml CSF in sterile Falcon tube · 2-5 ml Broncho alveolar lavage (BAL) in sterile cup or Falcon tube · 5-10 ml urine in sterile cup	MDI (8:00 AM -3:00 PM)	3-5 Working Days	• Need sterile container. • Stability blood, swabs, -Ambient: 8 hours; Refrigerated: 24 hour. • Stability Fluids-Ambient: 8 hours; Refrigerated: 24 hours; Under ice: 3 months

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#	Test Name	Collection Requirements	CTAG Section	Turn Around Time	Specimens Special Handling
26.	DNA Extraction (DNA Ext)	Minimum 2 ml any sample type if applicable	MDI (8:00 AM -3:00 PM)	1-3 Working Day	<ul style="list-style-type: none"> • Need sterile container. • Stability blood-Ambient: 8 hours; Refrigerated: 24 hours. • Stability Fluids-Ambient: 8 hours; Refrigerated: 24 hours; Under ice: 3 months. • Paraffin embedded tissue- Ambient
27.	EGFR Mutation	Paraffin embedded tissue	MDI (8:00 AM -3:00 PM)	7-10 Working Days	Ambient
28.	Enterovirus (Qualitative)	<ul style="list-style-type: none"> • 2 ml peripheral blood in lavender top (EDTA) tube • 2 ml CSF in sterile Falcon tube • 2 ml BAL in sterile cup or Falcon tube 	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> • Need sterile container. • Stability blood, swabs, -Ambient: 8 hours; Refrigerated: 24 hour. • Stability Fluids-Ambient: 8 hours; Refrigerated: 24 hours; Under ice: 3 months
29.	Epstein Barr Virus (EBV) (Quantitative)	<ul style="list-style-type: none"> • 2 ml peripheral blood in lavender top (EDTA) tube • 1-2 ml CSF in sterile Falcon tube • 2-5 ml Broncho alveolar lavage (BAL) in sterile cup or Falcon tube 	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> • Need sterile container. • Stability blood, swabs, -Ambient: 8 hours; Refrigerated: 24 hour. • Stability Fluids-Ambient: 8 hours; Refrigerated: 24 hours; Under ice: 3 months
30.	Factor II (Prothrombin) Mutation By PCR	<ul style="list-style-type: none"> • 2 ml peripheral blood in lavender top (EDTA) tube • 2-4 sterile Buccal Swabs stored in a sealed container without gel 	MDI (8:00 AM -3:00 PM)	7 Working Days	Stability- Ambient: 3 days; Refrigerated: 1 week
31.	Factor V Leiden (F5) R506Q Mutation	<ul style="list-style-type: none"> • 2 ml peripheral blood in lavender top (EDTA) tube • 2-4 sterile Buccal Swabs stored in a sealed container without gel 	MDI (8:00 AM -3:00 PM)	7 Working Days	Stability- Ambient: 3 days; Refrigerated: 1 week
32.	Familial Hemophagocytic Lymphohistiocytosis Genetic Study	2 ml peripheral blood in lavender top (EDTA) tube	MDI (8:00 AM -3:00 PM)	15-25 Working Days	<ul style="list-style-type: none"> • Need sterile container • Stability blood-Ambient: 8 hours; Refrigerated: 1 week

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33.	Fertility Test [CD3/CD4/CD25/CD16/CD56/C D45]	2-4.5 ml in EDTA blood tube "Lavender top" fill to mark	Flow Cytometry Sunday-Thursday: 8:00 am-3:00 pm Otherwise: Contact lab section	48 Hours	Fresh Blood Maximum 48 hrs. At Room Temperature
34.	Fever and Rash Panel (HHV7, Measles, HHV6, Enterovirus, B19)	<ul style="list-style-type: none"> · 2 ml peripheral blood in lavender top (EDTA) tube · 2 ml CSF in sterile Falcon tube · 2 ml body fluids in a sterile tube 	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> · Need Sterile Container · Stability Blood-Ambient: 8 Hours; Refrigerated: 24 Hours · Stability Fluids-Ambient: 8 Hours; Refrigerated: 24 Hours; Under ice: 3 Months
35.	FISH for Hematological Disorders	Heparin tube, Room temperature	Cytogenetics Sunday-Thursday 8:00 am – 4:00 pm	5 Days	Room Temperature
36.	FISH on Paraffin Embedded Tissue	Paraffin Embedded Tissue	Cytogenetics Sunday-Thursday 8:00 am – 4:00 pm	10 Days	Room Temperature
37.	Flow Cytometry Marker (Specify)	2-4.5 ml in EDTA blood tube "Lavender top" fill to mark. For fluid and tissue please contact flow cytometry laboratory.	Flow Cytometry Sunday-Thursday: 8:00 am-3:00 pm Otherwise: Contact lab section	48 Hours	Fresh blood, marrow aspirate, tissue, or fluid maximum 48 hrs. at room temperature
38.	FLT3 Mutation	2 ml peripheral blood or bone marrow in lavender top (EDTA) tube	MDI (8:00 AM -3:00 PM)	3-5 Working Days	Stability blood-bone marrow Ambient: 8 hours; Refrigerated: 1 week

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#	Test Name	Collection Requirements	CTAG Section	Turn Around Time	Specimens Special Handling
39.	Flu A, B and H1N1 Screening	<ul style="list-style-type: none"> Nasopharyngeal/ throat swab placed in universal transport media Sputum in 1 ml sputum collection kit or a sterile, plastic container with a leak-proof cap 2 ml BAL in sterile cup or Falcon tube 2 ml pleural fluid in sterile cup or Falcon tube 	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> Need sterile container Stability swabs-Ambient: 8 hours; Refrigerated: 48 hours Stability Fluids-Ambient: 8 hours; Refrigerated: 48 hours; Under ice: 2 months
40.	Full Myeloid Panel by Next Generation Sequencing (NGS)	<ul style="list-style-type: none"> 2 - 5 ml EDTA blood tube under ice or 2 ml bone marrow, EDTA on ice 	MDI (8:00 AM -3:00 PM)	20-30 Working days	Stability blood and bone marrow: Ambient: 1 day; Refrigerated 1 week.
41.	Full Solid Tumor Panel by Next Generation Sequencing (NGS)	Formalin-fixed, paraffin-embedded (FFPE)	MDI (8:00 AM -3:00 PM)	20-30 Working days	Ambient
42.	HCV genotyping (HCVg)	3-5 ml Whole blood Plain "Red Top Tube"	MDI (8:00 AM -3:00 PM)	5-10 Working Days	<ul style="list-style-type: none"> Need sterile container Stability blood-Ambient: 8 hours; Refrigerated: 24 hours
43.	Hemochromatosis HFE Gene Analysis, Blood	2 ml peripheral blood in lavender top (EDTA) tube	MDI (8:00 AM -3:00 PM)	7-10 Working Days	<ul style="list-style-type: none"> Need sterile container Stability blood-Ambient: 8 hours; Refrigerated: 1 week
44.	Hepatitis B Virus Quantitative (HBV QN)	2 ml peripheral blood in lavender top (EDTA) tube	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> Need sterile container Stability blood-Ambient: 8 hours; refrigerated: 24 hours. Under ice plasma: 3 months
45.	Hepatitis C virus Quantitative (HCV QN)	2 ml peripheral blood in lavender top (EDTA) tube	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> Need sterile container Stability blood-Ambient: 8 hours; refrigerated: 24 hours. Under ice plasma: 3 months

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#	Test Name	Collection Requirements	CTAG Section	Turn Around Time	Specimens Special Handling
46.	Herpes Simplex Virus (HSV) I and II (Qualitative)	<ul style="list-style-type: none"> 2 ml peripheral blood in lavender top (EDTA) tube 1-2 ml CSF in sterile Falcon tube 2-5 ml Broncho alveolar lavage (BAL) in sterile cup or Falcon tube Swab placed in phosphate buffered saline (PBS) 	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> Need sterile container Stability blood-Ambient: 8 hours; Refrigerated: 24 hours Stability Fluids-Ambient: 8 hours; Refrigerated: 24 hours; Under ice: 3 months
47.	HIV By Real Time PCR	2 ml EDTA blood tube "Lavender Top "	MDI (8:00 AM -3:00 PM)	7 Working Days	<ul style="list-style-type: none"> Need sterile container Stability blood-Ambient: 8 hours; Refrigerated: 24 hours
48.	HLA-A Intermediate/High Resolution	<ul style="list-style-type: none"> 2 ml peripheral blood, bone marrow or umbilical cord blood in lavender top (EDTA) tube 2-4 sterile Buccal Swabs stored in a sealed container without gel 1 ml Amniotic Fluid 	MDI (8:00 AM -3:00 PM)	5-7 Working Days	<ul style="list-style-type: none"> Stability blood and cord blood-Ambient: 1 week; Refrigerated 1 week. Stability buccal, swab-must be immediately delivered Stability DNA-Refrigerated or Under ice. Patient should not be blood transfused for at least 1 week before blood drawing
49.	HLA-A Sequence Specific Oligonucleotide (SSO)	<ul style="list-style-type: none"> 2 ml peripheral blood, bone marrow or umbilical cord blood in lavender top (EDTA) tube 2-4 sterile Buccal Swabs stored in a sealed container without gel 1 ml Amniotic Fluid 	MDI (8:00 AM -3:00 PM)	5-7 Working Days	<ul style="list-style-type: none"> Stability blood and cord blood-Ambient: 1 week; Refrigerated 1 week. Stability buccal, swab-must be immediately delivered Stability DNA-Refrigerated or Under ice. Patient should not be blood transfused for at least 1 week before blood drawing

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50.	HLA-A Sequence Specific Primer (SSP)	<ul style="list-style-type: none"> · 2 ml peripheral blood, bone marrow or umbilical cord blood in lavender top (EDTA) tube · 2-4 sterile Buccal Swabs stored in a sealed container without gel · 1 ml Amniotic Fluid 	MDI (8:00 AM -3:00 PM)	5-7 Working Days	<ul style="list-style-type: none"> · Stability blood and cord blood- Ambient: 1 week; Refrigerated 1 week. · Stability buccal, swab-must be immediately delivered · Stability DNA-Refrigerated or Under ice. · Patient should not be blood transfused for at least 1 week before blood drawing
51.	HLA-A-B and DR By SSO	<ul style="list-style-type: none"> · 2 ml peripheral blood, bone marrow or umbilical cord blood in lavender top (EDTA) tube · 2-4 sterile Buccal Swabs stored in a sealed container without gel · 1 ml Amniotic Fluid 	MDI (8:00 AM -3:00 PM)	5-7 Working Days	<ul style="list-style-type: none"> · Stability blood and cord blood- Ambient: 1 week; Refrigerated 1 week. · Stability buccal, swab-must be immediately delivered · Stability DNA-Refrigerated or Under ice. · Patient should not be blood transfused for at least 1 week before blood drawing
52.	HLA-B Intermediate/High Resolution	<ul style="list-style-type: none"> · 2 ml peripheral blood, bone marrow or umbilical cord blood in lavender top (EDTA) tube · 2-4 sterile Buccal Swabs stored in a sealed container without gel · 1 ml Amniotic Fluid 	MDI (8:00 AM -3:00 PM)	5-7 Working Days	<ul style="list-style-type: none"> · Stability blood and cord blood- Ambient: 1 week; Refrigerated 1 week. · Stability buccal, swab-must be immediately delivered · Stability DNA-Refrigerated or Under ice. · Patient should not be blood transfused for at least 1 week before blood drawing
53.	HLA-B Sequence Specific Oligonucleotide (SSO)	<ul style="list-style-type: none"> · 2 ml peripheral blood, bone marrow or umbilical cord blood in lavender top (EDTA) tube · 2-4 sterile Buccal Swabs stored in a sealed container without gel · 1 ml Amniotic Fluid 	MDI (8:00 AM -3:00 PM)	5-7 Working Days	<ul style="list-style-type: none"> · Stability blood and cord blood- Ambient: 1 week; Refrigerated 1 week. · Stability buccal, swab-must be immediately delivered · Stability DNA-Refrigerated or Under ice. · Patient should not be blood transfused for at least 1 week before blood drawing

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#	Test Name	Collection Requirements	CTAG Section	Turn Around Time	Specimens Special Handling
54.	HLA-B Sequence Specific Primer (SSP)	<ul style="list-style-type: none"> 2 ml peripheral blood, bone marrow or umbilical cord blood in lavender top (EDTA) tube 2-4 sterile Buccal Swabs stored in a sealed container without gel 1 ml Amniotic Fluid 	MDI (8:00 AM -3:00 PM)	5-7 Working Days	<ul style="list-style-type: none"> Stability blood and cord blood- Ambient: 1 week; Refrigerated 1 week. Stability buccal, swab-must be immediately delivered Stability DNA-Refrigerated or Under ice. Patient should not be blood transfused for at least 1 week before blood drawing
55.	HLA-C Genotyping	<ul style="list-style-type: none"> 2 ml peripheral blood, bone marrow or umbilical cord blood in lavender top (EDTA) tube 2-4 sterile Buccal Swabs stored in a sealed container without gel 1 ml Amniotic Fluid 	MDI (8:00 AM -3:00 PM)	5-7 Working Days	<ul style="list-style-type: none"> Stability blood and cord blood- Ambient: 1 week; Refrigerated 1 week. Stability buccal, swab-must be immediately delivered Stability DNA-Refrigerated or Under ice. Patient should not be blood transfused for at least 1 week before blood drawing
56.	HLA-DQ Genotyping	<ul style="list-style-type: none"> 2 ml peripheral blood, bone marrow or umbilical cord blood in lavender top (EDTA) tube 2-4 sterile Buccal Swabs stored in a sealed container without gel 1 ml Amniotic Fluid 	MDI (8:00 AM -3:00 PM)	5-7 Working Days	<ul style="list-style-type: none"> Stability blood and cord blood- Ambient: 1 week; Refrigerated 1 week. Stability buccal, swab-must be immediately delivered Stability DNA-Refrigerated or Under ice. Patient should not be blood transfused for at least 1 week before blood drawing
57.	HLA-DRB1 Intermediate/High Resolution	<ul style="list-style-type: none"> 2 ml peripheral blood, bone marrow or umbilical cord blood in lavender top (EDTA) tube 2-4 sterile Buccal Swabs stored in a sealed container without gel 1 ml Amniotic Fluid 	MDI (8:00 AM -3:00 PM)	5-7 Working Days	<ul style="list-style-type: none"> Stability blood and cord blood- Ambient: 1 week; Refrigerated 1 week. Stability buccal, swab-must be immediately delivered Stability DNA-Refrigerated or Under ice. Patient should not be blood transfused for at least 1 week before blood drawing

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58.	HLA-DRB1 Sequence Specific Oligonucleotide (SSO)	<ul style="list-style-type: none"> 2 ml peripheral blood, bone marrow or umbilical cord blood in lavender top (EDTA) tube 2-4 sterile Buccal Swabs stored in a sealed container without gel 1 ml Amniotic Fluid 	MDI (8:00 AM -3:00 PM)	5-7 Working Days	<ul style="list-style-type: none"> Stability blood and cord blood-Ambient: 1 week; Refrigerated 1 week. Stability buccal, swab-must be immediately delivered Stability DNA-Refrigerated or Under ice. Patient should not be blood transfused for at least 1 week before blood drawing
59.	HLA-DRB1 Sequence Specific Primer (SSP)	<ul style="list-style-type: none"> 2 ml peripheral blood, bone marrow or umbilical cord blood in lavender top (EDTA) tube 2-4 sterile Buccal Swabs stored in a sealed container without gel 1 ml Amniotic Fluid 	MDI (8:00 AM -3:00 PM)	5-7 Working Days	<ul style="list-style-type: none"> Stability blood and cord blood-Ambient: 1 week; Refrigerated 1 week. Stability buccal, swab-must be immediately delivered Stability DNA-Refrigerated or Under ice. Patient should not be blood transfused for at least 1 week before blood drawing
60.	Human Herpes Virus 6 (Qualitative)	<ul style="list-style-type: none"> 2 ml peripheral blood in lavender top (EDTA) tube 2 ml CSF in sterile Falcon tube 2 ml body fluids in a sterile tube 	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> Need sterile container Stability blood-Ambient: 8 hours; Refrigerated: 24 hours Stability Fluids-Ambient: 8 hours; Refrigerated: 24 hours; Under ice: 3 months
61.	Human Herpes Virus 7 (Qualitative)	<ul style="list-style-type: none"> 2 ml peripheral blood in lavender top (EDTA) tube 2 ml CSF in sterile Falcon tube 2 ml body fluids in a sterile tube 	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> Need sterile container Stability blood-Ambient: 8 hours; Refrigerated: 24 hours Stability Fluids-Ambient: 8 hours; Refrigerated: 24 hours; Under ice: 3 months

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62.	Hyper IgM	2-4.5 ml in Lithium/Sodium heparin tube "Green top" fill to mark	Flow Cytometry Sunday- Thursday: 8:00 am-3:00 pm Otherwise: Contact lab section	48 Hours	Fresh Blood Maximum 48 hrs. At Room Temperature
63.	IGH Gene Rearrangement, Clonality Screening By PCR	<ul style="list-style-type: none"> 2 - 5 ml EDTA blood tube under ice, or ml bone marrow, EDTA on ice Formalin-fixed-paraffin-embedded tissue (specimen source is required) CSF DNA 	MDI (8:00 AM -3:00 PM)	7-10 Working Days	<ul style="list-style-type: none"> Stability for FFPE-Ambient Indefinitely, Refrigerated: Indefinitely Stability for blood and CSF- Ambient: one day; Refrigerated: 5 days
64.	JAK-2 V617F Mutation	2 ml peripheral blood or bone marrow in lavender top (EDTA) tube	MDI (8:00 AM -3:00 PM)	3-5 Working Days	Stability blood-bone marrow Ambient: 8 hours; Refrigerated: 1 week
65.	(JCV & BKV) Polyomaviruses (Qualitative)	<ul style="list-style-type: none"> 2 ml peripheral blood in lavender top (EDTA) tube 1-2 ml CSF in sterile Falcon tube 5-10 ml urine in sterile cup 	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> Need sterile container Stability blood-Ambient: 8 hours; Refrigerated: 24 hours Stability Fluids-Ambient: 8 hours; Refrigerated: 24 hours; Under ice: 3 months
66.	KRAS Mutation	Paraffin embedded tissue	MDI (8:00 AM -3:00 PM)	7-10 Working Days	Ambient
67.	Leukemia/Lymphoma Immunophenotyping	2-4.5 ml Marrow in Lavender top tube or EDTA blood tube "Lavender top" fill to mark	Flow Cytometry Sunday- Thursday: 8:00 am-3:00 pm Otherwise: Contact lab section	48 Hours	Fresh blood up to 48 hrs. R.T. Collect tissue / FNA in RPMI media and send immediately

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68.	Leukocyte adhesion deficiency I (LAD) Panel [CD11a/CD11b/CD11b/CD18/C D45]	2-4.5 ml in EDTA blood tube "Lavender top" fill to mark	Flow Cytometry Sunday-Thursday: 8:00 am-3:00 pm Otherwise: Contact lab section	48 Hours	Fresh Blood Maximum 48 hrs. At Room Temperature
69.	Lymphocytes subsets test (CD3/CD4/CD8/CD16/CD56/C D19/CD45)	2-4.5 ml in EDTA blood tube "Lavender top" fill to mark	Flow Cytometry Sunday-Thursday: 8:00 am-3:00 pm Otherwise: Contact lab section	48 Hours	Fresh blood maximum 48 hrs. at room temperature
70.	Measles (Qualitative By PCR)	<ul style="list-style-type: none"> · 2 ml peripheral blood in lavender top (EDTA) tube · 2 ml CSF in sterile Falcon tube · 2 ml body fluids in a sterile tube 	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> · Need sterile container · Stability blood-Ambient: 8 hours; Refrigerated: 24 hours · Stability Fluids-Ambient: 8 hours; Refrigerated: 24 hours; Under ice: 3 months
71.	Mumps (Qualitative)	<ul style="list-style-type: none"> · 2 ml peripheral blood in lavender top (EDTA) tube · 2 ml CSF in sterile Falcon tube 	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> · Need sterile container · Stability blood-Ambient: 8 hours; Refrigerated: 24 hours · Stability Fluids-Ambient: 8 hours; Refrigerated: 24 hours; Under ice: 3 months
72.	Mycobacterium Tuberculosis (TB) by real-time PCR	<ul style="list-style-type: none"> · 1-2 ml CSF in sterile Falcon tube · 2-5 ml Broncho alveolar lavage (BAL) in sterile cup or Falcon tube · 1-2 ml pleural or peritoneal fluid or sputum in sterile Falcon tube · Paraffin-embedded tissue 	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> · Need sterile container · Stability-Ambient: 8 hours; Refrigerated: 24 hours; Under ice (excludes tissue): 3 months

CTAG Tests List & Specimens Collection Requirements (IPPLAB-GEN.02/R11 Attach I/R3)

#	Test Name	Collection Requirements	CTAG Section	Turn Around Time	Specimens Special Handling
73.	NRAS Mutation	Formalin-fixed, paraffin-embedded (FFPE)	MDI (8:00 AM -3:00 PM)	7-10 Working Days	Ambient
74.	Parvovirus B19 By PCR	<ul style="list-style-type: none"> 2 ml EDTA blood tube "Lavender Top " 2 ml CSF in sterile Falcon tube 2 ml Vesicle fluid, synovial fluid or other body fluid (specimen source is required) in sterile cup or falcon tube Tissue (specimen source is required) 	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> Stability Blood-Ambient: 8 Hours; Refrigerated: 24 Hours; Under ice Plasma: 3 Months Stability Fluids-Ambient: 8 Hours; Refrigerated: 24 Hours; Under ice: 3 Months
75.	PML-RARA Translocation (PML- RARA) Qualitative	<ul style="list-style-type: none"> 2 - 5 ml EDTA blood tube on ice, or 2 ml bone marrow, EDTA on ice 	MDI (8:00 AM -3:00 PM)	3-5 Working Days	Stability-Ambient: one hour; Refrigerated: 24 hours
76.	PNH	2-4.5 ml Marrow in Lavender top tube or EDTA blood tube "Lavender top" fill to mark	Flow Cytometry Sunday-Thursday: 8:00 am-3:00 pm Otherwise: Contact lab section	48 Hours	Fresh Blood Or Marrow Aspirate Maximum 48 hrs. At Room Temperature
77.	Respiratory Viruses By PCR (H1N1,COR43, ADENO, MPNEU, FLUA , COR229, PARA3, PARA1, RSV A/B , COR63, PARA2, HUMPA/B, RHINO, PARECH, ENTERO, HBOV(BOCAVIRUS), PARA4, FLUB, COR HKU)	<ul style="list-style-type: none"> Nasopharyngeal/ throat swab placed in universal transport media Sputum in 1 ml sputum collection kit or a sterile, plastic container with a leak-proof cap 2 ml BAL in sterile cup or Falcon tube 	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> Need sterile container Stability swabs-Ambient: 8 hours; Refrigerated: 48 hours Stability Fluids-Ambient: 8 hours; Refrigerated: 72 hours; Under ice: 2 months
78.	Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) by PCR	<ul style="list-style-type: none"> Nasopharyngeal/ throat swab placed in universal transport media 	MDI (8:00 AM -3:00 PM)	1-2 Working Days	Stability Fluids-Ambient: 8 hours; Refrigerated: 72 hours

CTAG Tests List & Specimens Collection Requirements (IPPLAB-GEN.02/R11 Attach I/R3)

#	Test Name	Collection Requirements	CTAG Section	Turn Around Time	Specimens Special Handling
79.	Single Antigen Class I By Luminex (Anti HLA)	2 ml Peripheral Blood in plain tube	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> Need sterile container Stability blood-Ambient: 8 hours; Refrigerated: 24 hours
80.	Single Antigen Class II By Luminex (Anti HLA)	2 ml Peripheral Blood in plain tube	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> Need sterile container Stability blood-Ambient: 8 hours; Refrigerated: 24 hours
81.	TCR Gamma Gene Rearrangement, Clonality Screening	<ul style="list-style-type: none"> 2 ml Peripheral blood (EDTA) or bone marrow Formalin-fixed, paraffin- embedded tissue 2 ml CSF in sterile Falcon tube Tissue (specimen source is required) DNA 	MDI (8:00 AM -3:00 PM)	7-10 Working Days	<ul style="list-style-type: none"> Stability for FFPE- Ambient: Indefinitely; Refrigerated: Indefinitely Stability blood and CSF- Ambient: 1 day; Refrigerated: 5 days
82.	TP53 Full genome Sequencing	<ul style="list-style-type: none"> 2 - 5 ml EDTA blood tube under ice or 2 ml bone marrow, EDTA on ice 	MDI (8:00 AM -3:00 PM)	20-30 Working days	Stability blood and bone marrow: Ambient: 1 day; Refrigerated 1 week.
83.	Varicella Zoster (VZV) Qualitative	<ul style="list-style-type: none"> 2 ml EDTA blood tube "Lavender Top" 2 ml CSF in sterile Falcon tube 	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> Need sterile container Stability swabs-Ambient: 8 hours; Refrigerated: 48 hours Stability Fluids-Ambient: 8 hours; Refrigerated: 72 hours; Under ice: 2 months
84.	Viral Encephalitis Panel (Mumps, HSV1, Enterovirus, HSV2, Parecho, VZV)	CSF	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> Need sterile container Stability swabs-Ambient: 8 hours; Refrigerated: 48 hours Stability Fluids-Ambient: 8 hours; Refrigerated: 72 hours; Under ice: 2 months
85.	Viral Vesicular Rash Panel	2 ml Vesicle fluid or other body fluid (specimen source is required) in sterile cup or falcon tube• Swab	MDI (8:00 AM -3:00 PM)	3-5 Working Days	<ul style="list-style-type: none"> Need sterile container Stability swabs-Ambient: 8 hours; Refrigerated: 48 hours Stability Fluids-Ambient: 8 hours; Refrigerated: 72 hours; Under ice: 2 months