

**Applied Diagnostics
Optimal Specimen Requirements**

Test	Specimen Type	Volume	Transport Medium	Viability	Rejection Criteria	
Histology / Morphology	Bone Marrow Biopsy/Core	1-2 cm core length	• 10% (NBF) Formalin	Not Applicable	Not Applicable	
	Bone Marrow Aspirate Clot		• 10% (NBF) Formalin			
IHC	Fresh Tissue	Primarily Tumor Tissue	• 10% (NBF) Formalin	<ul style="list-style-type: none"> • Breast Tissue: Within fixation guidelines of 6-72 hours • All Other Tissue: At least 6 hours fixation 	<ul style="list-style-type: none"> • Breast Tissue: > 72 hours fixation for breast specimens • All Other Tissue: Not Applicable 	
	Paraffin Embedded Tissue (FFPE)	<ul style="list-style-type: none"> • Unstained PLUS slides pre-cut from paraffin block in 4 micron sections • H&E slide - 4 micron section 	<ul style="list-style-type: none"> • 7 unstained slides, or • 6 unstained slides and 1 H&E slide 	Not Applicable	Not PLUS slides	
Flow Cytometry	Bone Marrow Aspirate	1-2 mL	<ul style="list-style-type: none"> • Sodium Heparin (green) tube preferred • EDTA (purple) tube acceptable 	Must be processed within 48 hrs	Hemolyzed, frozen, or clotted samples	
	Bone Marrow Core	1-2 cm core length	• RPMI	Must be processed within 48 hrs	RPMI past expiration date	
	Lymph Node or Tissue	1-2 cm	• RPMI	Must be processed within 48 hrs	RPMI past expiration date	
	FNA	2-5 mL	• RPMI	Must be processed within 48 hrs	RPMI past expiration date	
	Peripheral Blood	5 mL	<ul style="list-style-type: none"> • Sodium Heparin (green) tube preferred • EDTA (purple) tube acceptable 	Must be processed within 48 hrs	Hemolyzed, frozen, or clotted samples	
	Pleural Fluid / Spinal Fluid / Other Fluids	5-10 mL	• RPMI	Must be processed within 48 hrs	RPMI past expiration date	
Cytogenetics	Bone Marrow Aspirate	• 1-3 mL heparinized bone marrow	• Sodium Heparin (green) tube preferred	Must be processed within 36 hrs	Frozen	
	Bone Marrow Core	1-2 cm core length	RPMI	Must be processed within 48 hrs	RPMI past expiration date	
	Peripheral Blood (Not Routine)	• 5 mL whole blood	• Sodium Heparin (green) tube preferred	Must be processed within 36 hrs	Frozen	
aCGH	Bone Marrow Aspirate	1-3 mL	EDTA (purple) tube preferred	Must be processed within 48 hours	Frozen	
	Peripheral Blood	2-5 mL	EDTA (purple) tube preferred	Must be processed within 48 hours	Frozen	
FISH	Bone Marrow Aspirate	• 1-3 mL heparinized bone marrow	<ul style="list-style-type: none"> • Sodium Heparin (green) tube preferred • EDTA (purple) tube acceptable 	Must be processed within 48 hrs	Frozen	
	Peripheral Blood	• 5 mL whole blood	<ul style="list-style-type: none"> • Sodium Heparin (green) tube preferred • EDTA (purple) tube acceptable 	Must be processed within 48 hrs	Frozen	
Molecular	Molecular Hematopoietic	Bone Marrow Core / Clot	• 1-2 cm core length	• 10% (NBF) Formalin	Not Applicable	Insufficient amount of tumour (<10-20%)
				• Paraffin Block (FFPE)	Not Applicable	Insufficient amount of tumour (<10-20%)
		Bone Marrow Aspirate	• 2 mL	<u>DNA:</u> PCR/Sequencing/NGS <ul style="list-style-type: none"> • EDTA (purple) tube 	Must be processed within 5 days	Not Applicable
				<u>mRNA:</u> qPCR <ul style="list-style-type: none"> • EDTA (purple) tube • Sodium Heparin (green) tube 	Must be processed within 48 hrs	> 72 hours / 3 days
	Peripheral Blood	• 5 mL	<u>DNA:</u> PCR/Sequencing/NGS <ul style="list-style-type: none"> • EDTA (purple) tube 	Must be processed within 5 days	Not Applicable	
			<u>mRNA:</u> qPCR <ul style="list-style-type: none"> • EDTA (purple) tube • Sodium Heparin (green) tube 	Must be processed within 48 hrs	> 72 hours / 3 days	
Molecular Solid Tumor	Paraffin Embedded Tissue (FFPE)	Paraffin Block preselected for the presence of tumor tissue	• Paraffin Block (FFPE)	Not Applicable	Insufficient amount of tumour (<10-20%)	
		Unstained slides pre-cut from paraffin block in 5-10 micron sections	• 5-10 unstained slides	Not Applicable	Insufficient amount of tumour (<10-20%)	