

Specimen requirements and handling procedures

The quality of laboratory results is highly dependent upon proper specimen collection and handling. Listed below are specimen requirements and handling procedures for tests performed by NeoGenomics Laboratories. To support CAP compliance and ensure accurate specimen identification, all client-submitted specimens must include two patient identifiers. In addition, when submitting hematology smears, the specimen source should be clearly indicated on the test requisition form and tubes and is highly recommended to be added to the smears.

Specimen type	Cytogenetics	FISH	Flow cytometry	Bone marrow morphology	IHC	Molecular
Bone marrow aspirate[†]	1-2 mL sodium heparin	1-2 mL sodium heparin - EDTA is acceptable if sodium heparin not available - FISH non-PCE: 0.5-1 mL single probe, 1-2 mL panel	1-2 mL EDTA - Provide CBC report - Sodium heparin is acceptable - Lithium heparin and ACD not acceptable	EDTA with 4-6 smears/slides	N/A	2 mL EDTA preferred - Sodium heparin is acceptable* if EDTA not available; however, performance is optimized for EDTA
Peripheral blood[†]	2-5 mL sodium heparin - Provide CBC report	1-5 mL sodium heparin - EDTA is acceptable if sodium heparin not available - FISH non-PCE: 0.5-1 mL - Single probe, 1-2 mL panel	1-2 mL EDTA - Provide CBC report - Sodium heparin is acceptable - Lithium heparin and ACD not acceptable	EDTA with 2-3 smears/slides	N/A	3-5 mL EDTA preferred - Sodium heparin is acceptable* if EDTA not available; however, performance is optimized for EDTA - Two x 10 mL Streck Cell-Free DNA BCT[®] tubes for PanTracer[™] LBx or RaDaR[®] ST
Bone marrow core biopsy and/or aspirate clot (10% NBF)[†]	N/A	N/A	N/A	>1.5 cm core (length) 10x formalin to specimen volume - Additional 2 touch imprints preferred	1-2 cm core (length) core and clot sent in separate formalin containers	N/A
Fresh bone marrow core biopsy[†]	1 cm core (length) tissue in RPMI	0.5 cm core (length) tissue in RPMI	1-2 cm core (length) tissue in RPMI	N/A	N/A	N/A
Fresh/unfixed tissue[†]	>0.3 cm ³ in RPMI	0.2 cm ³	0.5-1 cm ³ tissue in RPMI	N/A	N/A	N/A
Fluids[†]	- CSF: 1-3 mL - All other fluid: 5-10 mL	50-100 mL	50-100 mL	N/A	N/A	50-100 mL
Paraffin block or cut slide[†] <i>(For cut slides, place sections from only one block on each slide.)</i>	N/A	- Suitable only for select assays; see website to confirm - Paraffin block preferred - Please use positively-charged slides and 10% NBF fixative - Do not use zinc or mercury fixatives (B5)	N/A	N/A	Paraffin block preferred or 4-5 micron thick tissue sections on positively-charged slides, at least 3 slides per antibody No additives in water bath <i>See article[‡] for slide use and storage recommendations</i>	- Suitable for select assays: see website to confirm - Paraffin block preferred - Please use positively-charged slides and 10% NBF fixative - Do not use zinc or mercury fixatives (B5) - Block Preferred. If multiple blocks from the same collection date exist, please send them all - For RaDaR ST and PanTracer Tissue requirements, please refer to NeoGenomics website.

*Sodium heparin is not acceptable for AML Express[™]

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Urothelial specimens† (voided urine, catheterized urine, bladder washings, stoma collections, ureteral brushings or washings, and renal pelvic brushings or washings.)	N/A	33-60 mL voided urine mixed 2:1 with supplied PreservCyt within 30 minutes of collection for total volume ≥50 mL	N/A	N/A	N/A	N/A
Decalcified specimens‡	N/A	Not acceptable	N/A	Acceptable	Acceptable for bone; inquire for non-bone	Not acceptable
Specimen viability requirements Please visit our test menu for a complete list of specimen requirements.	Preferred Collection Tube: Sodium heparin • If bone marrow and peripheral blood are collected, bone marrow is always preferred • Stability 7 days from DOC, but preferred within 72 hours from collection	Preferred Collection Tube: Sodium heparin • If bone marrow and peripheral blood are collected, bone marrow is always preferred • Stability 72 hours/3 days from DOC (PCE only) 7 days from DOC (non-PCE) – can attempt with disclaimer, but only up to 30 days FISH Bladder Cancer: Stable for 1 week; however, it is recommended that specimens be processed to the point of fixed cell pellets within 72 hours of collection	Preferred Collection Tube: EDTA • If bone marrow and peripheral blood are collected, bone marrow is always preferred unless the test is high sensitivity PNH evaluation • Stability 4 days from DOC PNH: 48 hours from DOC NY client requirements Sodium heparin: 48 hours from DOC EDTA: 30 hours from DOC	72 hours	N/A	Non-liquid biopsy: Preferred Collection Tube: EDTA If bone marrow and peripheral blood are collected, bone marrow is always preferred. • Stability RNA tests: 5 days from DOC DNA and plasma tests: 7 days from DOC TNA tests: 7 days from DOC Liquid biopsy: Required Collection tube: Streck Cell-Free DNA BCT® tubes • Stability Ensure delivery within 7 days

Storage and transportation

† Use cold pack for transport, making sure cold pack is not in direct contact with specimen. For fresh specimens, ship same day as drawn whenever possible. EXCEPTION — For liquid biopsy specimens, please contact Client Services for special kit and instructions.

‡ Refrigerate and use cold pack for transport. For fresh specimens, ship same day as drawn whenever possible.

§ Impact of environmental stress on various histology slide types. Ventana. 2013; N4629 0313B. <https://cms.neogenomics.com/sites/default/files/2025-03/Impact-of-env-stress-on-histology-slide-types-Ventana-2013.pdf> NeoGenomics cannot accept category A infectious substances as defined by IATA (Dangerous Goods Regulations 3.6.2.1.1 Definition – Infectious Substances), including, but not limited to, specimens that may harbor variant Creutzfeldt-Jakob Disease (mad cow disease), variant Creutzfeldt-Jakob Disease, or microbiologic cultures of Mycobacterium Tuberculosis. FFPE, fresh blood or bone marrow specimens, and body fluids are acceptable from patients with tuberculosis. For full details, see <https://www.neogenomics.com/providers/support-resources#test-requisition-forms>.