

Specimen guidelines

Whole exome & whole transcriptome sequencing

CLIA

CAP

TUMOR SAMPLE	FFPE tissue solid* heme** *bone tissue should be decalcified in EDTA **bone marrow tissue should be decalcified in EDTA Blocks 1 FFPE block - resections - core-needle biopsies - cell blocks Slides 10 unstained slides + 1 H&E slide - Thickness of 4 µm on positively charged glass slide - Sequential sections of the block, numbered (starting with N°1 from the top) and labeled with the ID of the sectioned block Specimen requirements: - Tissue area exceeds 5mm² - Total tumor cell count from all slides > 40,000 - Tumor content > 20% or the possibility for macro-dissection to increase tumor content up to 20% - FFPE block less than 5 years old, preferably from the most recent procedure - Block must be prepared according to industry standards
	Fresh / frozen tissue solid 30–100 mg of fresh tumor tissue, can be stored up to 96 hours at 4°C in RNAlater™ solution
	Extracted DNA/RNA solid heme DNA in water or a low TE buffer, total amount of DNA ≥ 200 ng and concentration ≥ 1.4 ng/µL RNA in water or a low TE buffer, total amount of RNA ≥ 200 ng and concentration ≥ 1 ng/µL (RIN score ≥ 6, DV200 ≥ 30%) - For clinical reports, the sample must be extracted in a CLIA-certified lab using the Qiagen AllPrep DNA/RNA kit or equivalent - For non-clinical reports, refer to project requirements
NORMAL SAMPLE	Whole blood solid 2x 10 mL in EDTA (Lavender Cap) blood collection tubes ⚠ NOT accepted if a patient: - has hematological cancer - receives systematic blood transfusions - has undergone a bone marrow transplant
	Saliva* solid heme 2 mL collected with the Oragene • DNA OG-600 kit ⚠ NOT accepted in case of bone marrow transplantation Patient should not eat, drink, smoke, or chew gum 30 minutes prior to collection
	Buccal swab* solid heme 2 Isohelix™ buccal swabs with RapiDri Pouch ⚠ NOT accepted in case of bone marrow transplantation Patient should not eat, drink, smoke, chew gum, or brush teeth 1 hour prior to collection

*For patients with blood cancer, buccal swabs are preferred over saliva samples. Both types of specimens are acceptable for patients undergoing regular blood transfusions.

Single-cell RNA sequencing

RUO

Viable cells from any sample type solid heme - Cryopreserved cells - Fresh tissue (bone marrow infusion product, whole blood, lymph node etc.)	10x Genomics GEM-X Flex is used for sample preparation	- Minimum sample input for fixation prior to library prep is 2×10^6 cells/nuclei - Cell viability ≥ 70%
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Liquid biopsy – ctDNA sequencing

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Whole blood

solid heme

- 1x 10 mL in an EDTA (Lavender Cap) blood collection tube
- 3x 10 mL in a Streck Cell-Free DNA (Black Cap) blood collection tubes

⚠ Analysis is NOT available for patients who:

- have undergone recent systematic blood transfusions
- have a history of hematopoietic stem-cell transplantation

Immune system profiling

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GCLP

Whole blood

solid heme

2x 10 mL in EDTA (Lavender Cap) blood collection tubes

⚠ NOT accepted if a patient:

- receives systematic blood transfusions
- has undergone a bone marrow transplant

Cryopreserved PBMC

solid heme

Cell count 2 million cells per vial before cryopreservation

Preferred format of sample:
PBMC in cryovials

Extracted RNA

solid heme

RNA in water or a low TE buffer with total amount of RNA ≥ 200 ng, concentration ≥ 4 ng/ μ L. Sample volume ≥ 50 μ L. RIN score > 6.0

Refer to specific project requirements for more details.

Immunohistochemistry (IHC) assays

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FFPE

solid heme

Slides

1 unstained slide (positively charged and unbaked at 4 μ m thick) per biomarker

Blocks

1 FFPE block (resections, core-needle biopsies, cell blocks for MMR and PD-L1 (NSCLC))

FFPE block must be:

- Prepared according to industry standards
- Preferably less than 5 years old and obtained from the most recent procedure

Next-generation spatial proteomics (MxIF)

GCLP

FFPE

solid heme

Slides

- 3 unstained slides + 1 H&E slide
- Thickness of 4 μ m on positively charged slide, no coverslips
- Sequential sections of the block, numbered (starting with №1 from the top) and labeled with the ID of the sectioned block

Blocks

1 FFPE block (resections, core-needle biopsies)

TMA block

- Externally constructed TMA block
- TMA block can be constructed in the BostonGene Laboratory from selected donor blocks

Specimen

requirements:

- FFPE block must be prepared according to industry standards
- Less than 5 years old, obtained from the most recent procedure
- Preferably freshly cut slides
- Imageable area 18 mm x 35 mm

If you have any questions about the samples requirements and shipping, please contact researchservices@bostongene.com +1 781-552-3131 (9:00 AM–5:00 PM ET Monday–Friday).

To learn more about the technologies we offer, visit bostongene.com

