

TISSUE REQUIREMENTS FOR SOLID TUMOR NEXT-GENERATION SEQUENCING

The following specimen requirements ensure testing can proceed without delay and increase the likelihood of successfully generating sequencing results.

Acceptable samples

Preliminary or final pathology reports should accompany all specimens.

1. Formalin-fixed, paraffin-embedded (FFPE) tissue

- Tissue should be fixed in 10% neutral-buffered formalin. Other fixatives not acceptable unless otherwise noted.
- Decalcified specimens are not acceptable.

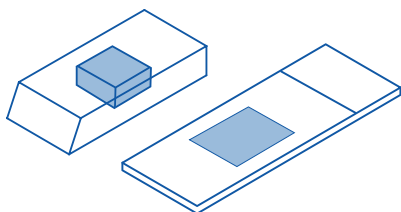
2. Cytology smears*

- Slides prepared from fine needle aspirations or touch preps.
- Slides prepared from Thin Prep.
- Plastic coverslips are not preferred and require extra processing time.

*Cytology smears not accepted for Neuro-Oncology Expanded Gene Panel with Rearrangement (Mayo ID: NONCP) or *NTRK* Gene Fusion Panel, Tumor (Mayo ID: NTRK).

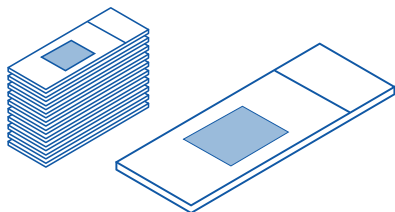
ACCEPTABLE TYPES

Tissue block, FFPE, and 1 H&E



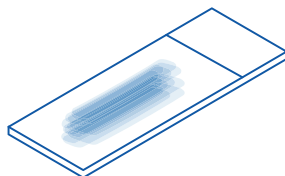
OR

10 unstained slides from one block, unbaked and 5 microns thick, and 1 H&E



OR

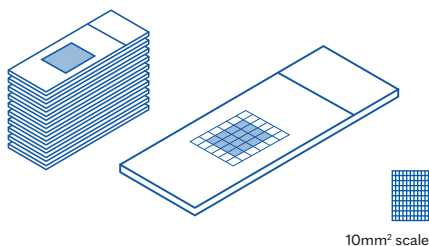
Cytology smear slides



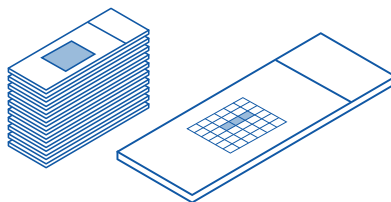
TISSUE SIZE AND TOTAL CELL REQUIREMENTS

FFPE

Preferred: 4 mm x 4 mm, 10 slides



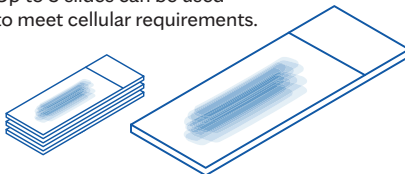
Minimum: 3mm x 1mm, 10 slides



OR

Cytology

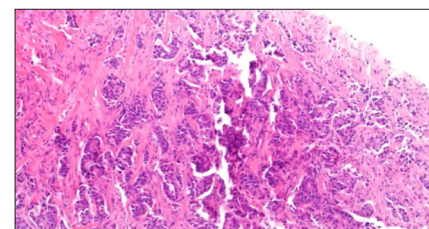
Preferred: 5,000 cells
Minimum: 3,000 cells
Up to 3 slides can be used to meet cellular requirements.



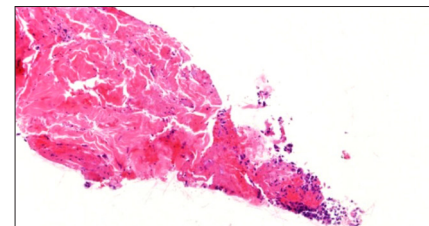
TUMOR NUCLEI PERCENTAGE

10%–40% required**

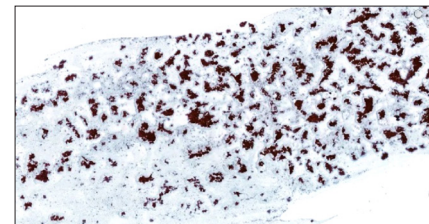
Percent tumor nuclei = number of tumor cells divided by total number of all cells with nuclei.



Example of core biopsy with sufficient total cells and tumor cells.



Example of core biopsy with insufficient total cells and tumor cells.



Example of cytology smear with sufficient total cells and tumor cells.

**Percentage depends on assay; refer to the assay's specimen requirements section in the test catalog.

TISSUE REQUIREMENTS

TEST NAME	MAYO ID	TUMOR TYPE(S)	SPECIMEN TYPE	DNA or RNA	TISSUE AMOUNT	TUMOR PERCENT REQUIRED
MayoComplete Liquid Biopsy Panel	MCLBP	ALL	Whole blood (Streck tube)	DNA	n/a, 2 Streck tubes	n/a
MayoComplete Solid Tumor Panel	MCSTP	ALL	FFPE and Cytology	BOTH	preferred - 720 mm ² min - 192 mm ²	20% min, 40% preferred
MayoComplete Bladder and Prostate Panel	MCBPP	BLADDER/PROSTATE	FFPE and Cytology	DNA	preferred - 216 mm ² min - 36 mm ²	20%
Neuro-Oncology Expanded Gene Panel	NONCP	CNS	FFPE	BOTH	preferred - 360 mm ² min - 144 mm ²	30%
MayoComplete Colorectal Panel	MCCRC	COLON	FFPE and Cytology	DNA	preferred - 216 mm ² min - 36 mm ²	20%
MayoComplete Endometrial Carcinoma Panel	MCECP	ENDOMETRIAL	FFPE and Cytology	DNA	preferred - 216 mm ² min - 36 mm ²	20%
MayoComplete GIST Panel	MCGST	GIST	FFPE and Cytology	DNA	preferred - 216 mm ² min - 36 mm ²	20%
MayoComplete Gynecological Panel	MCGYN	GYNECOLOGICAL	FFPE and Cytology	DNA	preferred - 216 mm ² min - 36 mm ²	20%
MayoComplete Lung Panel	MCLNG	LUNG	FFPE and Cytology	BOTH	preferred - 360 mm ² min - 72 mm ²	20%
MayoComplete Lung Mutations	MCLNM	LUNG	FFPE and Cytology	DNA	preferred - 216 mm ² min - 36 mm ²	20%
MayoComplete Lung Rearrangements	MCLNR	LUNG	FFPE and Cytology	RNA	preferred - 36mm ² min - 18mm ²	10%
MayoComplete Melanoma Panel	MCMLN	MELANOMA	FFPE and Cytology	DNA	preferred - 216 mm ² min - 36 mm ²	20%
MayoComplete Ovarian, Fallopian Tube, and Peritoneal Panel	MCOCP	OVARIAN	FFPE and Cytology	DNA	preferred - 216 mm ² min - 36 mm ²	20%
MayoComplete Renal Cell Carcinoma with Fibromyomatous Stroma Panel	MCFRC	RCC FMS	FFPE and Cytology	DNA	preferred - 216 mm ² min - 36 mm ²	20%
MayoComplete Kidney Panel	MCKCP	RENAL CELL	FFPE and Cytology	DNA	preferred - 216mm ² min - 36 mm ²	20%
MayoComplete Sarcoma Panel	MCSRC	SARCOMA	FFPE and Cytology	BOTH	preferred - 360 mm ² min - 72 mm ²	20%
MayoComplete Sarcoma Mutation Panel	MCSMP	SARCOMA	FFPE and Cytology	DNA	preferred - 216 mm ² min - 36 mm ²	20%
Sarcoma Targeted Gene Fusion Panel	SARCP	SARCOMA	FFPE and Cytology	RNA	preferred - 144 mm ² min - 36 mm ²	10%

TISSUE REQUIREMENTS

FOR CLINICAL OR TECHNICAL SUPPORT CONTACT OUR SPECIALISTS:
855-516-8404 | +1-855-379-3115 (INTERNATIONAL)
[NEWS.MAYOCLINICLABS.COM/ONCOLOGY](https://news.mayocliniclabs.com/oncology)



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