# Tissue Requirements for Solid Tumor Next-Generation Sequencing

The following specimen requirements ensure testing can proceed without delay and increases 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 not preferred and require extra processing time.

## Sample Types

### Acceptable Samples

- Tissue block, FFPE & 1 H&E

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

- Cytology smear slides.

### Tissue Size and Total Cell Requirements**

- **FFPE:**
  - Preferred: 4mm x 4mm, 10 slides
  - Minimum: 3mm x 1mm, 10 slides

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

### Tumor Nuclei Percentage**

- Optimal: 20%
  - Percent tumor nuclei = number of tumor cells divided by total number of all cells with nuclei.

**MCL’s Neuro-Oncology Expanded NGS Panel, test code NONCP, includes both RNA and DNA analysis and requires a greater amount of tissue and higher tumor percentage. See MCL’s test catalog for complete details.

---

* Cytology smears not accepted for test codes NONCP or NTRK