

Sample Submission & Preparation Guide

1. Fixation Standards

- **Fixative:** 10% Neutral Buffered Formalin (NBF) is preferred.
- **Time:** 24–48 hours for standard tissue (~5mm thickness).
 - *Note:* Over-fixation leads to irreversible cross-linking; under-fixation causes "raw" centers that shatter during sectioning.
- **Volume:** Use a 20:1 ratio of fixative to tissue volume.

2. Orientation & Cassette Loading

- **Ink the Edge:** Use surgical ink to mark the "surface of interest" if the orientation is not obvious.
- **Flatness:** Place tissue as flat as possible in the cassette. Curled or "bunched" tissue requires excessive "trim-into," which can waste valuable deeper structures.
- **Decalcification:** For bone or mineralized samples, please specify the method used (e.g., EDTA vs. Formic Acid).

3. Block Integrity

- **Paraffin Choice:** We recommend a high-quality paraffin with plastic polymers (e.g., Paraplast Plus) for better elasticity during sectioning.
- **No Voids:** Ensure there are no air bubbles or "voids" surrounding the tissue, as these cause the ribbon to split.

4. Shipping Requirements

- **Temperature Control:** Ship blocks in a padded, insulated container. If the ambient temperature is above 30°C, include a "cold brick" (not direct ice) to prevent the wax from softening.
- **Protection:** Wrap each block individually or use a dedicated block-storage mailer to prevent the faces from scratching against each other.
- **Manifest:** Include a printed manifest with:
 1. **Sample ID** (matched to the label on the cassette).
 2. **Requested Thickness** (Standard is $4\ \mu\text{m}$ to $5\ \mu\text{m}$ for IHC).
 3. **Slide Type:** Specify if you require (+) charged slides or specialized spatial biology substrates (e.g., Akoya/NanoString slides).