ABSTRACT

This protocol describes the procedure by which the OMS Atlas serially sections a FFPE block, prepares the resulting slides, and then distributes the specimens for downstream analysis.

MATERIALS

Tanner Scientific 45° White Adhesive Slide with Beveled Edge
Mercedes Medical Catalog #TNR WHT45AD

Superfrost Plus Microscope Slides
Fischer Scientific Catalog #12-550-15

Tomo® adhesion slides clipped corners
VWR International Catalog #10748-172

Additional equipment:
- Microtome

BEFORE START INSTRUCTIONS

Transfer FFPE blocks to OHSU Knight Histopathology Shared Resource (HSR) for sectioning and processing. Coordinate execution of this sectioning protocol to allow for shipping within the same business week.
**Preparation**

1. Verify the identity of the FFPE block to be cut against written request for sectioning.

2. Label all slides with a unique BEMS ID and slide number, corresponding to the written request and FFPE spatial map (below).

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Slide#</td>
<td>Slide Type</td>
<td>Assay</td>
</tr>
<tr>
<td>1</td>
<td>Superfrost Plus</td>
<td>H&amp;E</td>
<td>OHSU, HSR</td>
</tr>
<tr>
<td>2</td>
<td>Superfrost Plus</td>
<td>Cyclic Immunofluorescence (Tumor Panel)</td>
<td>HMS, Alyce Chen</td>
</tr>
<tr>
<td>3</td>
<td>Superfrost Plus</td>
<td>Cyclic Immunofluorescence (Immune Panel)</td>
<td>HMS, Alyce Chen</td>
</tr>
<tr>
<td>4</td>
<td>TOMO</td>
<td>Multiplex IHC (Discovery Panel)</td>
<td>OHSU, Sam Sivagnanam</td>
</tr>
<tr>
<td>5</td>
<td>Tanner</td>
<td>Cyclic Immunofluorescence (Panel A)</td>
<td>OHSU, Koei Chin</td>
</tr>
<tr>
<td>6</td>
<td>Tanner</td>
<td>Cyclic Immunofluorescence (Panel B)</td>
<td>OHSU, Koei Chin</td>
</tr>
<tr>
<td>7</td>
<td>Superfrost Plus</td>
<td>Nanostring GeoMx Digital Spatial Profiler</td>
<td>OHSU, KDL</td>
</tr>
<tr>
<td>8</td>
<td>Superfrost Plus</td>
<td>H&amp;E</td>
<td>OHSU, HSR</td>
</tr>
</tbody>
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**Sectioning**

3. Align block on microtome to minimize tissue loss.
4. Face into block at 5μm until full section of tissue is achieved.

5. Cut adequate ribbon at 5μm to cover all 8 serial sections.

6. Mount tissue sections onto appropriate slide types, maintaining serial order and orientation of sections.

7. Perform hematoxylin and eosin (H&E) staining on slides #1 and #8.

8. Bake slides #2, 3, 5, and 6.

   8.1 Place slides #2, 3, 5, and 6 in 55 °C oven overnight.

   8.2 The next morning, raise the oven temperature to 65 °C for up to 01:00:00.  
   *Note: Slides should be baked at 65 °C for at least 30 minutes.*

   8.3 Remove slides from oven. Place slides in slide boxes and store at room temperature.
Deliver slides #2 through #7 to BioLibrary for distribution.