

Feb 03, 2023

Version 6

OMS Atlas FFPE Spatial Mapping V.6

DOI

<https://dx.doi.org/10.17504/protocols.io.8epv56ppjg1b/v6>

Brett Johnson¹, Danielle Galipeau¹, George Thomas²

¹Oregon Health & Science University;

²Knight Comprehensive Cancer Institute, Oregon Health & Science University



Brett Johnson

Oregon Health & Science University

Create & collaborate more with a free account

Edit and publish protocols, collaborate in communities, share insights through comments, and track progress with run records.

Create free account

OPEN  ACCESS



DOI: <https://dx.doi.org/10.17504/protocols.io.8epv56ppjg1b/v6>

Protocol Citation: Brett Johnson, Danielle Galipeau, George Thomas 2023. OMS Atlas FFPE Spatial Mapping. **protocols.io**
<https://dx.doi.org/10.17504/protocols.io.8epv56ppjg1b/v6> Version created by **Brett Johnson**

License: This is an open access protocol distributed under the terms of the **Creative Commons Attribution License**, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

Protocol status: Working

We use this protocol and it's working

Created: February 01, 2023

Last Modified: February 03, 2023

Protocol Integer ID: 76181

Keywords: biospecimen, FFPE, tissue processing, spatial mapping, oms atlas ffpe spatial mapping, oms atlas ffpe spatial mapping this protocol, oms atlas, ffpe block, specimens for downstream analysis, resulting slide

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

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 (Avantor) Catalog #10748-172**

Additional equipment:

- Microtome

Before start

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).

	A	B	C	D
	Slide #	Slide Type	Assay	Recipient
	1	Superfrost Plus	H&E	OHSU, HSR
	2	Superfrost Plus	Cyclic Immunofluorescence (Tumor Panel)	HMS, Alyce Chen
	3	Superfrost Plus	Cyclic Immunofluorescence (Immune Panel)	HMS, Alyce Chen
	4	TOMO	Multiplex IHC (Discovery Panel)	OHSU, Sam Sivagnanam
	5	Tanner	Cyclic Immunofluorescence (Panel A)	OHSU, Koei Chin
	6	Tanner	Cyclic Immunofluorescence (Panel B)	OHSU, Koei Chin
	7	Superfrost Plus	Nanostring GeoMx Digital Spatial Profiler	OHSU, KDL
	8	Superfrost Plus	H&E	OHSU, HSR

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.

Processing

- 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.
- 9 Deliver slides #2 through #7 to BioLibrary for distribution.