OMS Atlas FFPE Spatial Mapping V.6

Brett Johnson[1], Danielle Galipeau[1], George Thomas[2]

[1]Oregon Health & Science University;
[2]Knight Comprehensive Cancer Institute, Oregon Health & Science University

Brett Johnson
Oregon Health & Science University

VERSION 6

FEB 02, 2023

OPEN ACCESS

DOI:
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/v6Version created by Brett Johnson

Protocol status: Working
We use this protocol and it's working

Created: Jan 31, 2023

Last Modified: Feb 02, 2023

PROTOCOL integer ID:
76181

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 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.

Keywords: biospecimen, FFPE, tissue processing, spatial mapping

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.