VERSION 1

OCT 27, 2020

OPEN ACCESS

DOI:
dx.doi.org/10.17504/protocols.io.4avgse6

Protocol Citation: Brett Johnson, Danielle Galipeau, Todd Camp, George Thomas 2020. OMS Atlas FFPE Spatial Mapping. **protocols.io** <https://dx.doi.org/10.17504/protocols.io.4avgse6>

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

Created: Jun 17, 2019

Last Modified: Oct 27, 2020

PROTOCOL integer ID:
24629

Keywords: biospecimen, FFPE, tissue processing, spatial mapping

🌐 OMS Atlas FFPE Spatial Mapping V.1

Brett Johnson¹, Danielle Galipeau¹, Todd Camp¹, George Thomas²

¹Oregon Health & Science University;

²Knight Comprehensive Cancer Institute, Oregon Health & Science University

NCIHTAN

Brett Johnson
Oregon Health & Science University

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**

Additional equipment:

- Microtome

BEFORE START INSTRUCTIONS

Transfer FFPE blocks to OHSU Knight Histopathology Shared Resource (HSR) for sectioning and processing.

Preparation

- 1 Verify the identity of the FFPE block to be cut against written request for sectioning.
- 2 Label each Tanner slide with a unique BEMS ID and slide number, corresponding to the written request and FFPE spatial map (below).

Note: Slides #1-4 compose the official OMS Atlas Dataset.

Slide#	Assay	Recipient
1	H&E	OHSU , HSR
2	Cyclic Immunofluorescence (Tumor Panel)	HMS, Alyce Chen
3	Cyclic Immunofluorescence (Immune Panel)	HMS, Alyce Chen
4	Multiplex IHC (Discovery Panel)	OHSU , Courtney Betts
5	Cyclic Immunofluorescence	OHSU , Koei Chin
6	H&E	OHSU , HSR
7	Quantitative Intracellular Signaling Panel (Nanostring)	OHSU , KDL
8	Quantitative Intracellular Signaling Panel (Nanostring)	OHSU , KDL

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 10 serial sections.
- 6 Mount tissue sections onto Tanner slides to maintain serial order and orientation of sections.

Processing

- 7 Perform hematoxylin and eosin (H&E) staining on slides #1 and #8.
- 8 Bake slides #2 through #7.
 - 8.1 Place slides #2 through #7 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 and deliver to Biolibrary for distribution.