



VERSION 2
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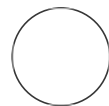
🌐 OMS Atlas OCT Spatial Mapping V.2

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ABSTRACT

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

MATERIALS

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

🔗 1.0mm PEN membrane covered slides ;
100pieces Zeiss Catalog #415190-9041-000

Additional equipment:

- UV lamp
- Cryostat
- Cryotubes

BEFORE START INSTRUCTIONS

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

OPEN ACCESS



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

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50879


Preparation

- 1 Verify the identity of the OCT block to be cut against written request for sectioning.
- 2 Remove OCT block from $-80\text{ }^{\circ}\text{C}$ freezer and acclimate to cryostat ($-20\text{ }^{\circ}\text{C}$) for minimum of 03:00:00.
- 3 Label all slides and cryotubes with a unique BEMS ID and Part#, corresponding to the written request and OCT spatial map (below).


A	B	C	D	E
Part#	Description	Thickness	Assay	Recipient
1	Tanner slide	5 μm	Cyclic Immunofluorescence	OHSU, Koei Chin
2	Tanner slide	5 μm	H&E	OHSU, HSR
3	Tanner slide	5 μm	Cyclic Immunofluorescence (Tumor Panel)	HMS, Alyce Chen
4	Tanner slide	5 μm (Set Cryostat at 12 μm)	Cyclic Immunofluorescence (Tumor Panel)	HMS, Alyce Chen
5	Cryotube	7 μm	Single Cell DNA Sequencing	MD Anderson, Nick Navin
6	PEN membrane slide	12 μm	Topographic Single Cell Sequencing	MD Anderson, Nick Navin
7	PEN membrane slide	12 μm (Set Cryostat at 40 μm)	Topographic Single Cell Sequencing	MD Anderson, Nick Navin
8	Cryotube	40 μm (2 sections)	Single Cell DNA Sequencing	MD Anderson, Nick Navin
9	Remainder of OCT block	NA	Single Cell Indexing ATAC Sequencing	OHSU, Andrew Adey

- 4 Prepare PEN membrane slides by exposing close (~15-20cm) to a UV source for  00:15:00 .

Sectioning

- 5 Affix OCT block to cryostat chuck.
- 6 Orient and face block to get adequate amount of core.
Note: Avoid excessive facing to reduce tissue loss.
- 7 Set cryostat to 5 micron sections.
Note: All sections cut from here on should be sequential. The serial order, adjacency, and consistent orientation of the sections are all important factors. Please note any deviations from the protocol.
- 8 Cut first four sections at 5 microns (Part#1-4) and affix onto appropriately labeled Tanner slide according to OCT spatial map (step #3 above).
- 9 Change section thickness to 12 microns.
- 10 Cut one section (Part#5) and place in a cryotube.
Note: This is an intermediate section generated when the Cryostat is switching thicknesses. The actual thickness of this section should be about 7 μ m.
- 11 Cut two sections (Part#6, 7) and place on appropriate membrane slides.
- 12 Change section thickness to 40 microns.
- 13 Cut 2 sections (Part#8) and place both sections in a single cryotube.
- 14 Place all slides, both cryotubes, and remaining OCT block in  -80 °C freezer.
Note: No slides are to be fixed under this protocol.

Processing

- 15 Perform hematoxylin and eosin (H&E) staining on slide labeled Part#2 (see OCT spatial map in step #3 above).
- 16 Deliver unstained slides (Part#1, 3, 4, 6, 7), cryotubes (Part#5, 8), and remainder OCT block (Part#9) to BioLibrary for distribution.
Note: Keep samples frozen at all times. Store at  -80 °C . Transfer/ship on dry ice.