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HuBMAP TMC-Florida/Zurich CODEX Modality Overview v.2

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1 Works for me dx.doi.org/10.17504/protocols.io.be9pjh5n

Human BioMolecular Atlas Program (HuBMAP) Method Development Community

ABSTRACT

This protocol is an overview of all of the protocols currently in use for the CODEX modality at HubMAP Tissue Mapping Center,TMC-Florida/Zurich. It includes protocols.io links to each of the individual protocols that make up this project workflow, from processing tissue and imaging the samples, to uploading the final data to the HuBMAP HIVE.

GUIDELINES

This workflow protocol may be interupted at any point.
Steps are permitted to be performed in non-consecutive order.
Repeated runs on the same sample do not require employing the entire protocol sequence.

MATERIALS TEXT

Required materials are provided within each linked protocol.

SAFETY WARNINGS

Follow all safety guidelines provided with individual links within this protocol.

BEFORE STARTING

Confirm sample ID information at the start of each step.

1 Process donor organs into samples for analysis.
Lymph Node: dx.doi.org/10.17504/protocols.io.bbgnijve
Thymus: dx.doi.org/10.17504/protocols.io.bbgmiju6
Spleen: dx.doi.org/10.17504/protocols.io.bc3kiykw

2 Register organ donor, organs received and common coordinate region information in the HuBMAP UUID generator at https://uuid.hubmapconsortium.org.

3 Prepare paraffin blocks from tissue samples.
Cassette Processing: dx.doi.org/10.17504/protocols.io.8nzhvf6
Paraffin Embedding: dx.doi.org/10.17504/protocols.io.bam9ic96

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4 Prepare H&E sections for histopathological assessment.
Sectioning: dx.doi.org/10.17504/protocols.io.bahdib26
H&E Staining: dx.doi.org/10.17504/protocols.io.beamjac6

5 Validate antibodies in all target tissue types by IHC using DAB Staining:
https://dx.doi.org/10.17504/protocols.io.bdiei4be

6 Coat coverslips with Poly-L-Lysine.
Coverslip Preparation: dx.doi.org/10.17504/protocols.io.baxyifpw

7 Cut and mount sections for CODEX analysis.
Sectioning: dx.doi.org/10.17504/protocols.io.basdiea6

8 Stain coverslips with Akoya invertoried antibodies.
Staining: dx.doi.org/10.17504/protocols.io.bbsdina6

9 Make CODEX bar coded reporter trays.
Preparation: dx.doi.org/10.17504/protocols.io.bc2riyd6

10 Perform multiplex data acquisition using CODEX robot and Keyence microscope.
Acquisition: dx.doi.org/10.17504/protocols.io.bdifi4bn

11 Transfer images to analysis computer and perform CODEX processing.
Codex_Processor.docx

12 Register completed CODEX section information in the HuBMAP UUID generator at https://uuid.hubmapconsortium.org.

13 Prepare and upload data to the HuBMAP HIVE Globus using hipergator.

Datasets to HiperGator-Globus.docx

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