Histology Group

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Objectives of Presentation

INTRODUCE THE STAFF
QUICK OVERVIEW OF HISTOLOGY
LIST OF OUR EQUIPMENT
LIST OF SERVICES PROVIDED AND HOW TO ORDER
QUESTIONS
Introducing.....

Microscopy and Histology Group
Located at SMCRI 10-508, 10-509

Lead By Dr. Cassandra Lucas
Directed By Dr. Jolanta Topczewska
Teched By Alan Rodriguez, HTL (ASCP)
Mission Statement

The Histology Group’s mission is to assist researchers in their work by providing high quality and high-throughput histological services on animal and human tissue. Through consultations, we assist in developing a research-specific plan on the researcher’s histological needs. Additionally, we also provide training on histology techniques to further assist the researcher.
“Histo” comes from the Greek, meaning “web” or “tissue.”

Histology is the study of microscopic examination of tissue.

For general histology, tissue is generally fixed in 10% NBF.

Time is critical. Time from sacrifice to fixative has to be short, and time in fixative has to be 24-48hrs.

The volume of fixative to tissue is 10:1.
H&E Stain

The most commonly used stain
Hematoxylin and Eosin
Structural Overview
Special Stains

Highlights a specific tissue type, entity, or microorganisms

Ex. Periodic Acid Schiff (PAS)
Molecular

Immunohistochemistry – IHC
In-Situ Hybridization – ISH
Ex. FISH Stain
Equipment

Excelsior AS Tissue Processor      HistoStar Embedding Center
Tissue Block
Equipment

HM 325 Rotary Microtome

HM 355S Automatic Microtome
Unstained Slide
Equipment

Gemini/Clearvue Stainer and Coverslipper
Stained Slide
Equipment

Leica Cryostat CM3050 S
Services – Full Service Offerings

- Tissue Processing and Embedding
- Paraffin Cutting
- Staining (H&E and/or Special Staining)
- Snap Freezing Tissue
- Cryostat Cutting
- EDTA for decalcification
- Deparaffinization
Full Service-Submitting an Order

Drop off is location outside 10-509.

Order forms and pens are available.

Drop off:
- Your Tissue
- A filled out order form
- Slide Boxes, if necessary
Full Service – Creating an Order

- Fill out the top completely, especially contact information.
- Clearly write out the name of your samples on the sheet.
  - (Ex T20-101)
- Fill out what you need on the form.
- There is space on the bottom space specific details, but feel free to reach out, ESPECIALLY if it’s your first time ordering
- When your order is complete, you will be contacted via email. Pick up is outside of 10-509. Please sign out your work.
Submitting Unprocessed Tissue

When submitting unprocessed tissue for processing and embedding, have the tissue in a labeled cassettes, in a specimen jar, filled with Fixative or 70% alcohol.

Remember to use a xylene/alcohol resistant pen or #2 pencil to mark your cassettes.
Submitting Blocks for Cutting

When submitting blocks for cutting, fill out a form and leave the blocks, in a container on top of the form.

Make sure to bring a slide box when you submit tissue.
Submitting Frozen Blocks for Cutting

When submitting frozen blocks for sectioning, fill out a form, contact me, and put the frozen blocks in container in -20 freezer.

Transfer your specimen on dry ice, as OCT is water soluble.
Picking Up Your Order

Outside of 10-509.

Look for the slot with your name on it, and sign the form when picking up your order.
Rentable Equipment Include
- 3 Leica CM3050 S Cryostat
- 1 HM 355S Automatic Microtome
- 1 Fume Hood

Reservation Forms are found outside of 10-509, behind the order forms. Please reserve 48 hours in advance.

Due to COVID-19
The Microtome and Cryostat only available after noon.
Training on the machines is paused.
## Cost – Sample Order

### Cost Breakdown

#### Tissue Processing
- Routine Processing for Paraffin Embedding: 2 x $8.00 = 16
- Snap Freezing Tissue: 2 x $5.00 = 10
- EDTA Treatment for Decalcification: 2 x $1.00 = 2

#### Tissue Sectioning
- Routine Sectioning (Unstained) - 5um unless otherwise specified
  - Bake? Yes: 20 x $2.00/slide = 40
  - Bake? No: 20 x $2.00/slide = 40
- Single Frozen Tissue Sectioning (first slide; unstained)
  - 20 x $7.00/slide = 140
- Single Frozen Tissue Sectioning (additional unstained slides)
  - 10 x $7.00/slide = 70

#### Staining
- Routine H&E Staining: 2 x $2.00 = 4
- Deparaffinization: 2 x $1.00
- Special Staining: 2 x $13.00 = 26

#### Equipment Use Cost
- Cryostat Training: 2 x $5.00/0.25hr = 10
- Microtome Training: 2 x $5.00/0.25hr = 10
- Cryostat Use: 2 x $5.00/0.25hr = 10
- Microtome Use: 2 x $5.00/0.25hr = 10
- Hood Use: 2 x $6.00/hr = 12

#### Supplies
- Tissue Cassettes: 2 x $0.25 = 1
- 25 Count Slide Box: 1 x $4.00 = 4
- 100 Count Slide Box: 1 x $8.00 = 8

**Grand Total:** 60

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Effective Date: November 20, 2019

Please acknowledge the use of the histology core with, "Histology Services were provided by the Microscopy and Histology Group at Stanley Manne Children’s Research Institute, affiliated with Ann & Robert H. Lurie Children’s Hospital of Chicago.
Acknowledgments


• Special Thanks to the Laronda Lab, Seed Lab, and Tan Lab for their use of images.
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