**Guidelines for Sample Submission**

**BLS Histology and Research Laboratory**

**CTSI Portal Registration**

* Every project must first:

1. Register in the CTSI Portal to obtain a CTSI Project Number.
2. Request the BLS Histology service line under the CTSI Project Number and provide a valid EFS chartstring.

* The CTSI Portal can be accessed here: <https://ctsi.ahc.umn.edu/portal/auth/sign_in>
* If you need assistance, contact Cole Drifka (cdrifka@umn.edu).

**Consultation Meeting**

* If you are using BLS Histology for the first time, an initial consultation meeting is highly recommended to discuss your project goals and feasibility.
* Consultation meetings are offered at no charge.
* Please contact Colleen Forster (cforster@umn.edu) to schedule a consultation meeting.

**Sample Submission Form**

* A completed **Sample Submission Form** must accompany all submitted samples. Include detailed instructions on how tissues should be oriented, sectioned and stained.
* **Principal Investigator and CTSI Project Number must be written on the Sample Submission Form.**
* E-mail the Sample Submission Form to Colleen Forster (cforster@umn.edu) and Adam Lewis (lewi0215@umn.edu) before submitting samples.
* Sample Submission Form can be downloaded here: <https://www.ctsi.umn.edu/consultations-and-services/specimen-procurement/histology-and-ihc-laboratory>
* Bring samples and Sample Submission Form to **room** **2-155 Jackson Hall** Place samples in the appropriate drop-off bins.

**Biosafety Considerations**

* BSL-1 tissues/cells are accepted.
* BSL-2 tissues/cells are accepted only if fixed in 10% neutral buffered formalin (NBF) for a minimum of 48 hours.
* Frozen BSL-2 tissues/cells are not accepted.

**Containers**

* Please label all containers with date, Principal Investigator, CTSI Project Number, and the solution type.
* If slides are being requested, provide your own slide folders/boxes labeled with Principal Investigator and CTSI Project Number. If a slide folders/boxes are not provided, the lab will provide them and you will be billed accordingly.
* Tissues/cassettes for submission must be placed in a leak-proof container and within a sealed plastic bag.
* If conical tubes are being used, store them upside down (on the lid) so tissues are not squished in the tip of the tube.

**Tissue Cassette Labeling**

* Use an alcohol and xylene resistant marker or #2 lead pencil.
* **DO NOT USE A SHARPIE OF ANY KIND.**
* Please write clearly.
* If the wrong pen is used and markings come off during processing, you will still be charged.

**Tissue Collection**

* Cut tissues 2-5 mm thick if possible. It allows for better penetration of fixative
* For skin samples, make sure the **fur is shaved off.** Fur does not cut.
* Do not overcrowd specimens in jars or cassettes. It hinders proper fixation and embedding.

**Tissue Fixation**

* Place tissue in fixative immediately to prevent autolysis.
* **Use lots of fixative.** Cover tissue with 10-20 times its own volume of fixative.
* Bloody fixative should be replaced with fresh, clean fixative to endure proper fixation.
* If multiple tissues are fixed in the same container, swirl the container periodically and make sure tissues are not sticking together. A rocking platform is recommended if available.
* **10% NBF fixation:** 
  1. Fix tissues in 10% NBF for 24 hours at room temperature.
  2. Remove old fixative.
  3. Add fresh 10% NBF and fix for another 24 hours for a total of 48 hours.
  4. Rinse samples in running tap water.
  5. Place samples in 70-80% ethanol.
  6. Keep at room temperature until submission to BLS Histology.

**Submitting Cells for FFPE Blocks**

1. Grow cells to desired density. Higher cell densities generally produce better cell blocks.
2. Spin cells down and pour off media. Replace with buffer (TBS or PBS) and mix well to re-suspend the cells. Repeat x3 times.
3. Add 10% NBF to the tube and re-suspend cells.
4. Fix cells for 10-15 minutes at room temperature on a rocking platform.
5. Spin cells down and pour off the fixative.
6. Re-suspend cells in 70-80% ethanol.
7. Keep at room temperature until submission to BLS Histology.

**Contact for Questions**

* Lab phone: 612-626-1930
* Colleen Forster, Histology Technician, [cforster@umn.edu](mailto:cforster@umn.edu)
* Adam Lewis, Histology Technician, [lewi0215@umn.edu](mailto:lewi0215@umn.edu)

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