

NDIIF HISTOLOGY CORE USER GUIDE

Tissue Processing, Microtomy, Cryosectioning, and Staining Protocols

Notre Dame Integrated Imaging Facility (NDIIF) • Core Reference Guide

HISTOLOGY CORE (HC) RESOURCES

This reference document covers the active equipment, specialized preparation tools, and histochemical workflows available in the **NDIIF Histology Core** [cite: 1.1.5]. The core provides full-service or user-operated tissue preparation, sectioning, and pathology staining for biological models including mice, rats, frogs, zebrafish, fruit flies, bone, and human tissues [cite: 1.1.5].

1. Active Histology Core Equipment

Instrument	System Type / Function	Key Capabilities & Primary Applications
Leica TP 1020	Tissue Processor	Automated tissue processor featuring pre-heat and pre-cool temperature control to maintain constant specimen conditions during dehydration and paraffin infiltration [cite: 1.1.5].
Arcadia Embedding Station	Tissue Embedding Station	Ergonomic paraffin embedding station allowing efficient orientation and preparation of paraffin-embedded tissue blocks [cite: 1.1.5].
Leica HistoCore AUTOCUT	Microtome & Waterbath System	Fully motorized microtome for precise sectioning of paraffin and plastic-embedded tissues, paired with a temperature-controlled waterbath [cite: 1.1.5].
Leica CM 1850	Cryostat System	Reliable precision cryostat for sectioning fresh-frozen tissue specimens under controlled sub-zero temperatures [cite: 1.1.5].
Leica VT1200 S	Fully-Automated Vibratome	Vibrating blade microtome designed for fresh or fixed soft tissue sectioning without freezing or embedding, ideal for delicate neurological tissues [cite: 1.1.5].
CryoJane Tape-Transfer System	Cryosectioning Aid	Specialized tape-transfer technique using adhesive-coated slides and tapes to produce high-quality, distortion-free frozen sections of challenging tissues [cite: 1.1.5].

2. Staining Protocols & Core Services

Histological Protocols & Preparation Services:

- **Sample Preparation & Staining Protocols:** Core staff maintain an extensive library of established protocols for routine (H&E), special histological stains, and immunohistochemistry (IHC) [cite: 1.1.5].
- **Custom Protocol Development:** Staff work directly with researchers to optimize novel staining and specimen preparation procedures tailored to specific experimental targets [cite: 1.1.5].
- **Cross-Model Versatility:** Protocols established for soft tissues, decalcified bone, and diverse animal models (rodents, xenopus, zebrafish, drosophila, human specimens) [cite: 1.1.5].

3. Facility Location & Access Guidelines

- **Consultation & Services:** Core staff offer full-service processing or training for independent operation on all sectioning and embedding equipment [cite: 1.1.5].
- **Scheduling:** Training requests, service orders, and equipment reservations are managed through the NDIIF iLab portal.