

# Necropsy, Histology, and Toxicologic Pathology

We understand your need for a partner with the expertise and capacity to meet your toxicologic pathology requirements. Charles River has more personnel, equipment, and space dedicated to pathology than any other contract research organization or preclinical product development company in North America. We offer full-service histology laboratories with facilities and offices in multiple convenient locations. All our facilities are functionally integrated and offer interactive services to fulfill your needs. Each site is equipped to provide complete GLP-compliant necropsy, histology, and histopathology, as well as a wide variety of specialty pathology-based services to support research and development programs.

Charles River's professional staff includes over 70 veterinary pathologists who are recognized and respected specialists in experimental and toxicologic pathology and in diagnostic pathology in support of disease surveillance and quality control programs. As a group, Charles River pathologists have been responsible for the initial "read" or quality assessment/peer review of review of thousands of chemicals, substances, and products in acute, subchronic, short-term, and chronic bioassay studies.

## Necropsy Services

Our teams of experienced and carefully trained technicians can provide necropsy services at either your facility or in one of our own. Members of these teams are trained in all aspects of necropsy procedures, including special tissue harvest associated with biomedical devices (stents, implants, etc.) and the use of whole-body or organ perfusion technology routinely used in conjunction with neurotoxicologic protocols or studies having ultrastructural requirements.

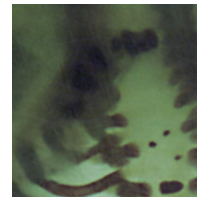
- Traveling necropsy team providing support and training
- Necropsy supervision from board-certified pathologists
- In-depth understanding of industry GLP, regulatory guidelines, and specifications
- Specialized tissue collection, including whole-body or organ perfusion
- Freezing of tissues for genomic or proteomic analysis and immunohistochemistry
- Aseptic tissue collection techniques for PCR analysis

## Toxicologic Pathology Services

- Experience with a wide range of:
  - Animal models and organ systems
  - Routes of exposure
  - Study designs
  - Therapeutic agents
  - Diseases
- Board-certified pathologists
- GLP-compliant pathology data collection and reporting
- Designated Quality Assurance Unit (QAU)
- Pathologist assignment based on expertise and client request
- Pathology support on-site at client facility
- Peer review

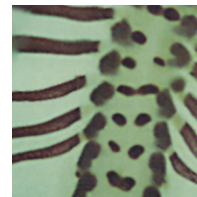
## Additional Pathology Services

- Bone and joint pathology
- Electron microscopy (EM)
- Immunohistochemistry
- Histochemistry
- Tissue cross-reactivity
- Clinical pathology
- Neuropathology
- Molecular pathology
- Tissue-based biomarkers
- Clinical trials support
- Scientific and regulatory consulting
- Archiving and repository



## Histology Services

Each of our laboratories is designed to provide a high-production environment with emphasis on tissue accountability during every step of tissue processing and preparation. All aspects of histology are monitored by laboratory managers, supervisors, and section leaders, ensuring that SOPs are maintained and that work is performed according to specific study protocols. All activities are also monitored via critical-phase inspections by members of Charles River's Quality Assurance Unit, operating independently of all project activities, to assure compliance with GLP requirements.



In addition to standard hematoxylin and eosin (H&E) histology, we perform a wide variety of special stains including enzyme histochemistry. Stains are available for localization of carbohydrates, nucleic acids, polysaccharides, proteins, lipids, enzymes, and cellular structures. A full battery of special stains is offered, including immunohistochemistry and RNase-free slides for *in situ* hybridization.



- Standard hematoxylin and eosin (H&E) staining
- Specialized histochemical stains for specific cellular components
- Plastic processing (GMA) for producing thin sections in support of reproductive pathology and neuropathology
- Plastic embedding (MMA) for microtomy of hard tissues and devices