Pathology Core Research Laboratory

The Pathology Core Research Lab (PCRL), located in the Lyons Harrison Research Building (LHRB) basement, provides state of the art histology and histomorphometric analysis of bone, implants and other tissue samples.

### Histology

<table>
<thead>
<tr>
<th>Sample Type</th>
<th>Staining Method</th>
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</thead>
<tbody>
<tr>
<td>Monkey tibia, plastic section</td>
<td>Goldner’s Trichrome</td>
</tr>
<tr>
<td>Mouse bone, paraffin section</td>
<td>TRAP stain</td>
</tr>
<tr>
<td>Mouse Bone fracture model</td>
<td>Alcian blue/Orange G stain</td>
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</tbody>
</table>

Processing hard tissue requires highly specialized techniques, unique equipment, and technical expertise. Histological sections may be obtained from fresh frozen bones, decalcified and paraffin-embedded bones, or from non-decalcified, plastic-embedded bones & implants.

### Histomorphometry

For histomorphometry studies we use the Bioquant® Image Analysis Software. Histomorphometry can be used to estimate cell numbers, positively labeled cells, cell volume, or distance measurements based on consensus standards. It can also be used to measure the amount of protein present in a band by comparison with the integrated optical density of a known standard.

### Core Users

Over the past ten years, our laboratory has assisted researchers from many departments such as: Pathology, Orthopedics, Cardiology, Physiology and Biophysics, Nephrology, Dental, Radiology, Biomedical Engineering, Rheumatology, Microbiology, Hematology/Oncology, Neuropathology, Neuroscience, Cell Biology and Physics.

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### Histology Images

- Mouse tibia, unstained plastic section, double label fluorescence
- Mouse xenograft, paraffin section, CD31 IHC stain
- Mouse jaw, paraffin section, Alk Phos IHC stain
- Sheep shoulder, ground section
- Monkey tibia, plastic section
- Mouse bone, paraffin section
- Masson’s Trichrome
- Von Kossa