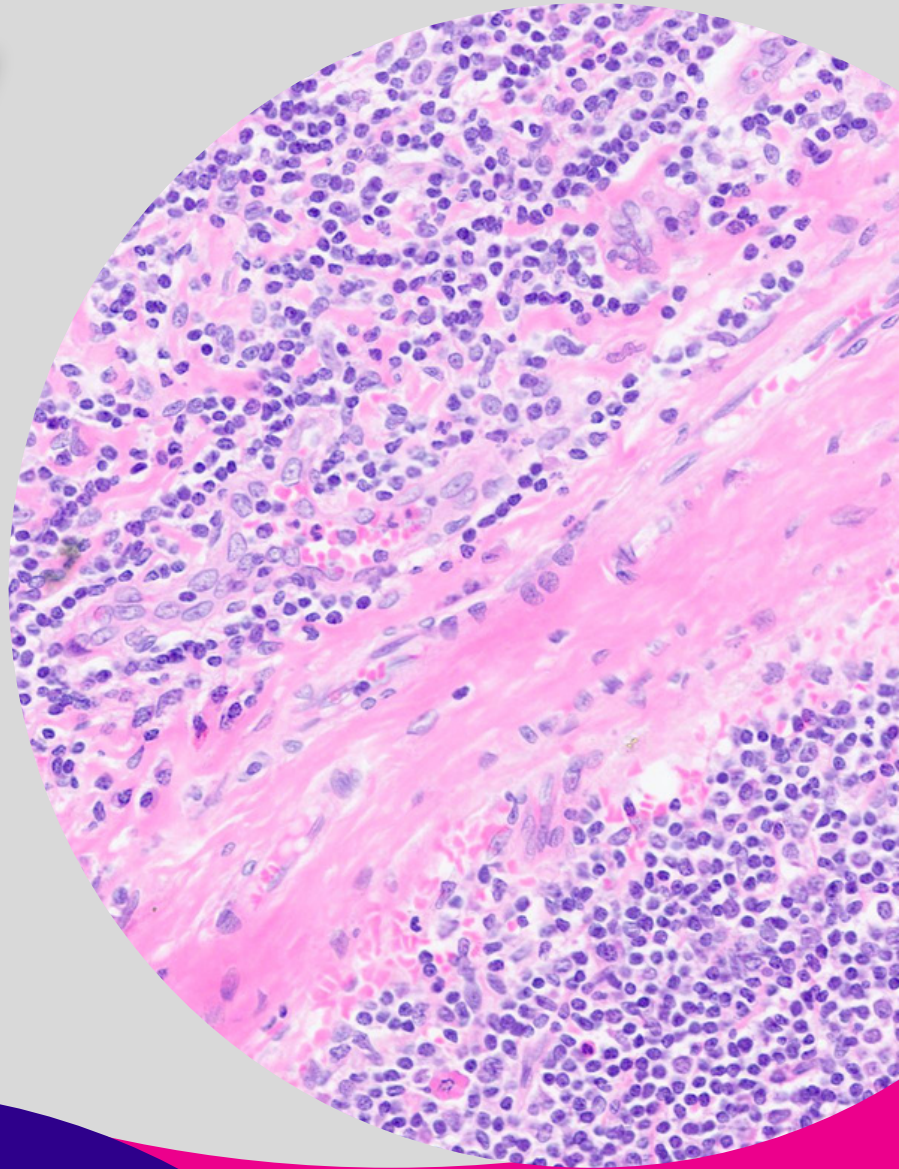




CANCER
RESEARCH
UK

CITY OF
LONDON
CENTRE

Pathology TTP



Processing and embedding

Microtomy & Cryotomy

Staining

Scanning

Nucleic acid extraction

Immunohistochemistry




Who we are

The Pathology TTP provides histology support for researchers at the Cancer Institute and across UCL.

Our small team of technicians are working on a wide range of projects across human and animal models.

We work in close collaboration with the UCL / UCLH Biobank for Studying Health and Disease. The Biobank is fully licenced by the Human Tissue Authority and has REC approval to provide researchers with access to normal and diseased tissues that are surplus to diagnostic requirements.

Interested in working with us? Please get in touch at ci.bbfhad-admin@ucl.ac.uk. We will be happy to discuss your project!



What we offer

Processing and embedding

The Pathology TTP can receive fixed human or animal specimens for processing and embedding into wax to create formalin-fixed paraffin embedded (FFPE) blocks.

We can also produce FFPE wax blocks from cell pellets and organoids embedded agarose.

Microtomy & Cryotomy

We offer microtomy of FFPE blocks to obtain sections of 1-60 microns in thickness. These are suitable for users looking to perform downstream analysis including staining, immunohistochemistry, RNAScope, spatial transcriptomics approaches and DNA/RNA extraction.

For fresh/fixed frozen samples we can generate cryosections of 1-100 microns in thickness.

Staining

We routinely provide Haematoxylin & Eosin staining of slides to reveal the basic nuclear and cellular morphology of sections. Special stains such as PAS can be accommodated upon request.

Scanning

We offer scanning of stained slides using either the Hamamatsu NanoZoomer S360 or Leica Aperio GT 450 DX scanners to generate whole slide images.

Nucleic acid extraction

Upon request, DNA/RNA extractions can be performed on curls cut from FFPE blocks using the Qiagen AllPrep DNA/RNA FFPE kit.

Immunohistochemistry

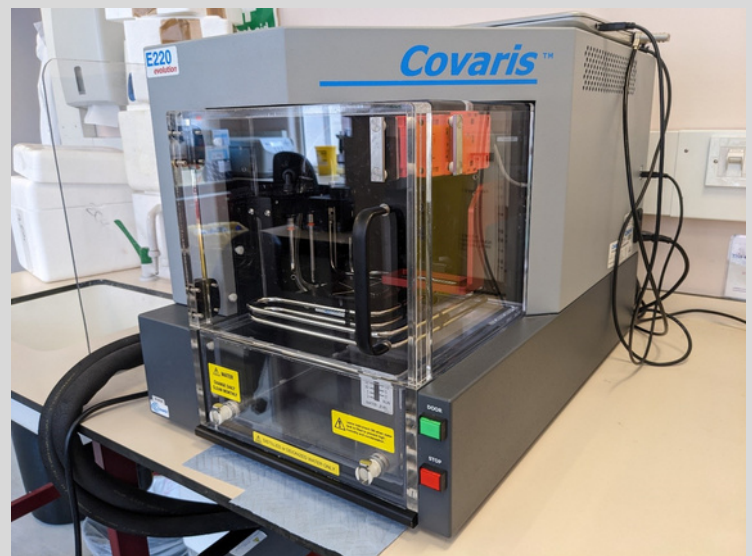
!!COMING SOON!! on Leica Bond Max and Ventana Benchmark Ultra autostainers.

Our equipment

The Pathology TTP also provides a wide range of equipment available for use by UCL researchers. Please get in touch to discuss training and access.

Covaris E220 Evolution

An acoustic focused-ultrasonicator, capable of extremely rapid and complete homogenization, tissue disruption and DNA/RNA extraction from a range of sample types and volumes. Samples can be homogenized in small batches using kits available to purchase from Covaris.



Leica Cryostat 1860UV



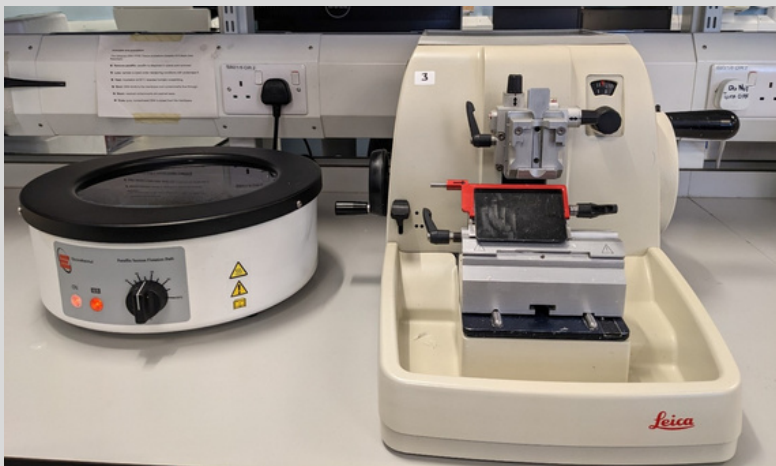
A chilled microtome for the cutting of frozen sections of 1-100 microns in thickness at temperatures down to -30°C . It has a quick freeze function for rapid cooling of samples and a UVC disinfection to maintain sample sterility.

Leica Aperio GT 450 DX scanner

An automated, high-capacity brightfield slide scanner that combines high image quality ($0.26 \mu\text{m}/\text{pixel}$ at 40x) with rapid scanning. It is simple to operate and up to 450 slides can be continuously loaded using 15 racks. Slides are automatically scanned at a throughput of 81 slides per hour at 40x for a 15mm x 15mm scanning area, to produce whole slide images in the .svs format. Please note: clinical slides must be pseudonymised prior to scanning.



Leica 2135 and 2235 rotary microtomes



We have 3 manual rotary microtomes available for the precision cutting of tissue sections between 1-60 microns in thickness as well as waterbaths for floating out sections

Leica BOND-MAX (coming soon!)

An automated staining system that is designed to deliver precise and consistent Immunohistochemistry and In Situ Hybridisation assays using Leica's specialised antigen retrieval and detection systems. Up to 30 slides (FFPE or frozen) can be loaded at a time, running up to 3 different staining protocols. Ideal for users looking to optimise Single or Dual chromogenic Immunohistochemistry staining.



Hammamatsu NanoZoomer S360



A high-throughput brightfield digital scanner that can handle batches of up to 360 slides at a time to produce digital images in the .ndpi format at either 20x or 40x resolution. Capable of scanning speeds of 1 slide in 30s (at 20x mode for a 15 x 15mm area). Incorporates slide label anonymisation at point of scanning

Ventana BenchMark Ultra



An advanced automated staining system for performing immunohistochemistry or in situ hybridization on histology or cytology specimens.

Up to 30 slides can be loaded, with independent protocols and temperature controls (ambient to 100°C) available at each position.

Capable of fully automated slide baking, deparaffinization, antigen retrieval and staining for IHC, ISH, SISH, immunofluorescence, multiparameter IHC staining (dual, triple), counter staining and reagent titration

Contact

Please get in touch at ci.bbfhad-admin@ucl.ac.uk

