



Introducing HistologiX: Leaders in Cellular and Digital Pathology

Dr Peter De'Ath, Head of Client Management

Tuesday 26th September 2023

(Inaphaea Biolabs Launch: MediCity Nottingham)

- Good Laboratory Practice (GLP) accredited laboratory based at the BioCity site in central Nottingham.
- We provide contract research services to a global client base ranging from University spin-out companies and SMEs to multinational corporations in the pharmaceutical and biotechnology sectors.
- Specialised in Histology, Immunohistochemistry and Digital Pathology services.



HistologiX Timeline



GLP Compliance
Awarded and retained since 2005.

2005

Establishment
HistologiX formed to provide tailored, quality Histology and Immunohistochemistry (IHC) services.



HTA Licence
Awarded and retained since 2007.

2007

BIOCITY
Moved to BioCity, Nottingham, UK. Equipped to support our high-quality services.

2012



GCP Compliance
For Histology and Immunohistochemistry services. Awarded and retained since 2015.

2015

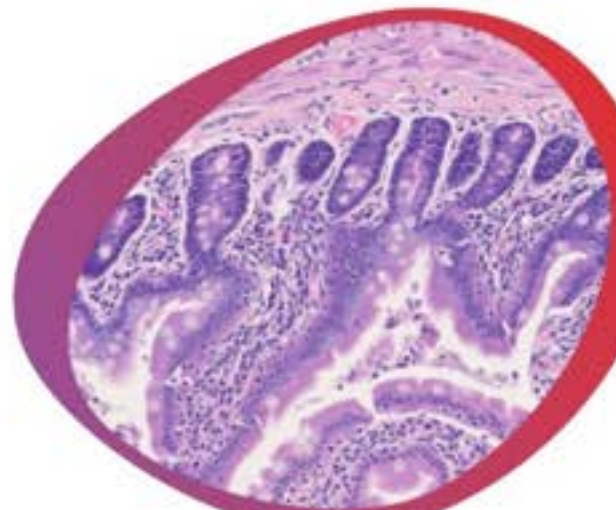
Growth
Joined the Intelligent Tissue Group, now Niche CRO Group.

2018

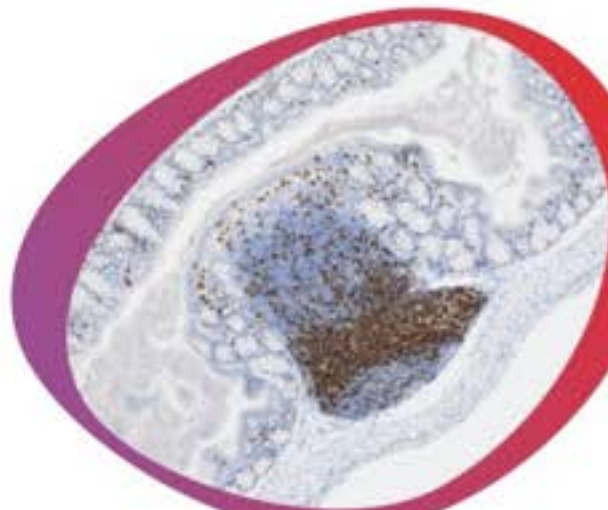


Expansion
Continuing to build upon our services, expertise, personnel and client base.

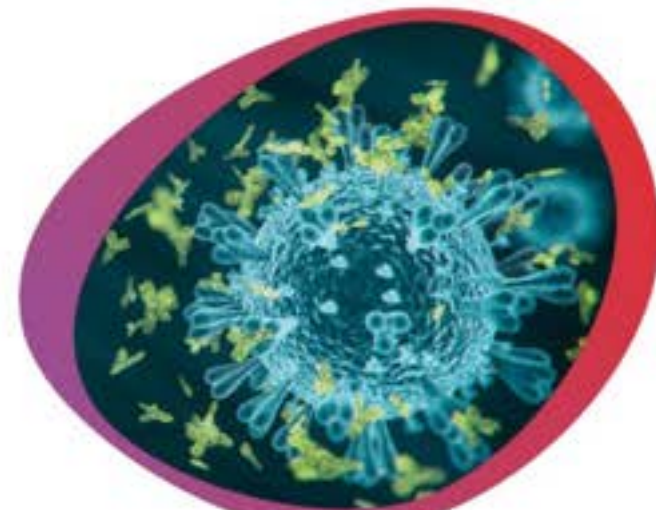
2022



**Cell and Tissue
Analysis**



**Biomarker
Investigation**

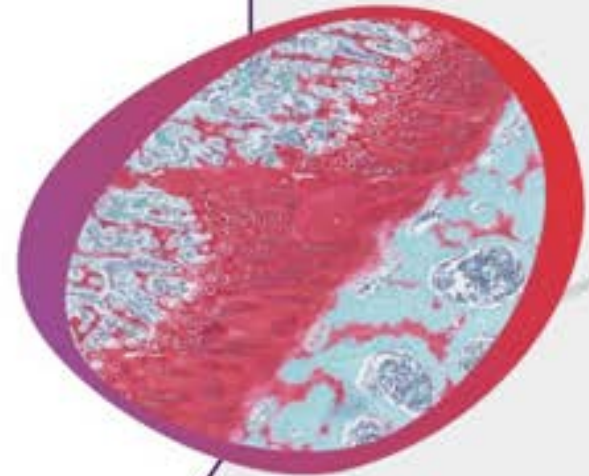


**Therapeutic
Antibody
Characterisation**

A circular inset showing a microscopic view of tissue stained with H&E, showing cellular structures and nuclei.

Cell and Tissue Analysis

- Capability to process a range of sample types in either frozen or formalin-fixed paraffin embedded (FFPE) format.
- Routine Haematoxylin and Eosin (H&E) staining with histopathological evaluation.
- Offering of many special (tinctorial) stains for in depth characterisation of key histological features.
- Support for pre-clinical toxicology studies.



A circular inset showing a microscopic view of a cell with a prominent brown-stained nucleus, likely representing immunohistochemistry (IHC) results.

Biomarker Investigation

- Application of immunohistochemical (IHC) and immunofluorescent (IF) methods to visualise expressed proteins of interest.
- Characterisation of biomarker expression across species, tissue types and various diseases/disease states.
- Able to support projects from preclinical research through to target identification and clinical research.
- Spatial analysis possible through multiplex IF assays and high-plex solutions including Ultivue™ as well as via In-Situ Hybridisation (ISH) technologies.



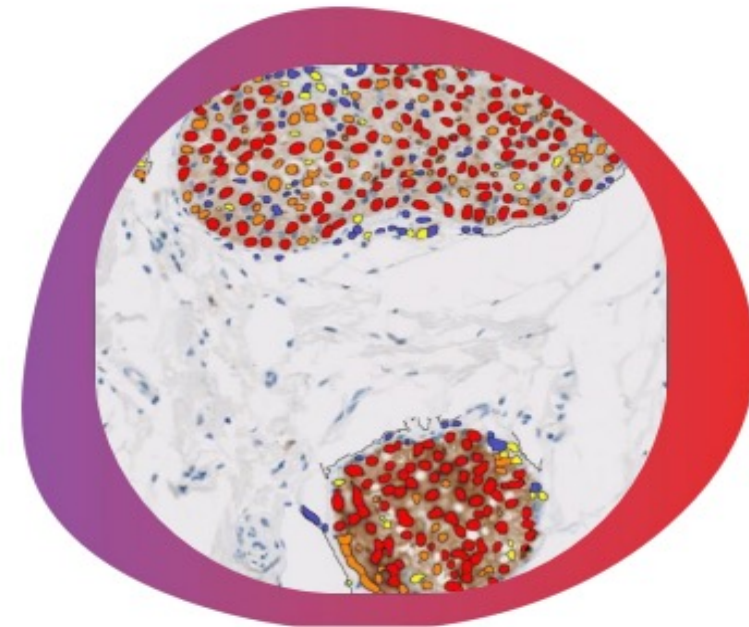
A circular illustration showing a complex, multi-colored (blue, green, yellow) structure representing an antibody or a cellular component, set against a dark background.

Therapeutic Antibody Characterisation

- Significant experience working with Client developed and manufactured antibodies intended for therapeutic clinical use.
- Knowledge in optimising biotherapeutics from a range of antibody classes including:
 - antibody cocktails, Fab/VH fragments, bispecific superantigens, nanobodies and aptamers.
- Offering of both GLP and non-regulatory Tissue Cross-Reactivity studies to assist in identification of off-target binding and unexpected on-target binding with toxicity and/or efficacy implications.
 - Required for Investigational New Drug (IND) and Clinical Trials Application (CTA) submissions.



**Digital Whole Slide
Scanning**



**Digital Image
Analysis**



Digital Whole Slide Scanning

- By use of both bright-field and fluorescent automated whole slide scanning platforms, HistologiX can generate high resolution images of stained slides.
- Digitising physical data streams is crucial to long term storage and distribution of information.



Storage &
Longevity

Efficient &
Accessible

Visualisation

Data
Presentation

Collaboration

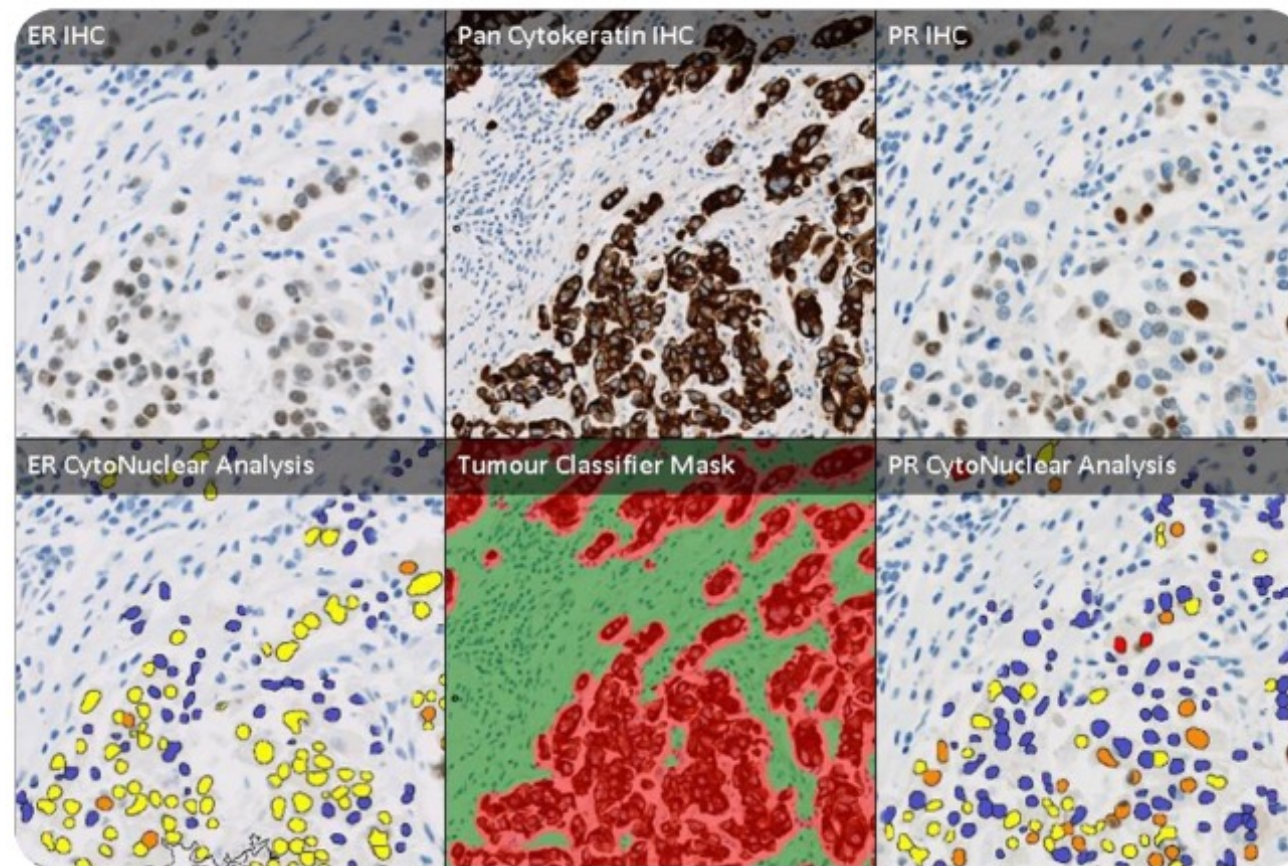
A circular inset image showing a microscopic view of tissue with red-stained areas, likely representing a histological slide.

Digital Image Analysis

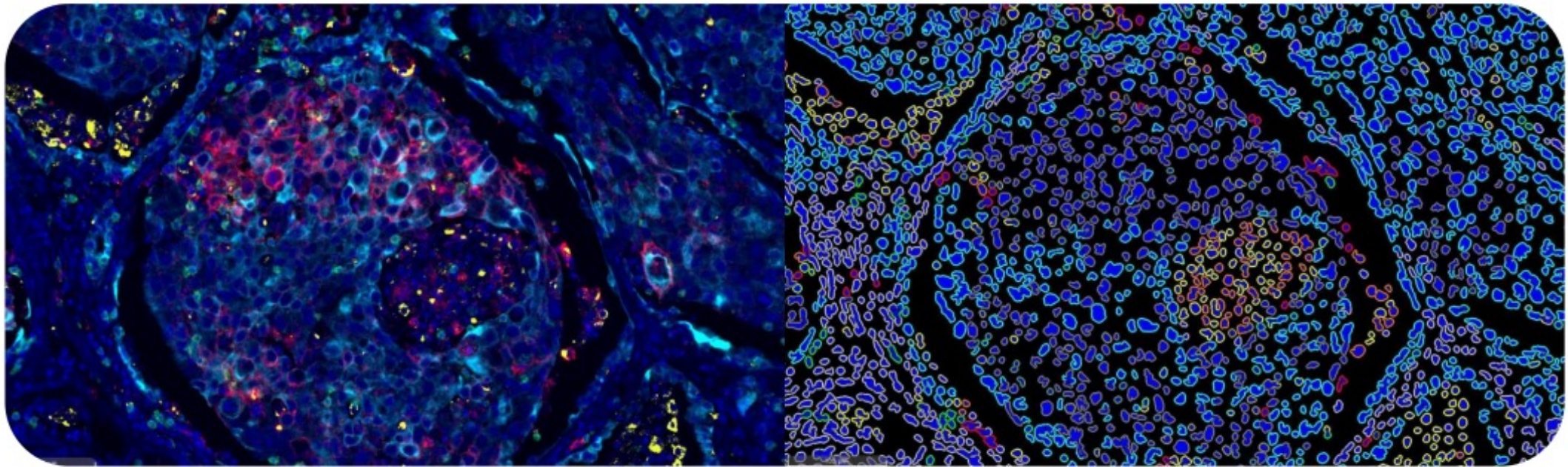
- HistologiX utilises it's wealth of histopathology knowledge through gold standard image analysis software delivering quantitative data from whole slide images facilitating decision making.
- Analysis can include formal quantification of protein expression as well as physical measurements attributed to size/area of stained features.
- Able to unlock spatial relationships in the data via proximity and co-localisation algorithms granting greater biological understanding.
- Augmented by artificial intelligence (AI) for tissue recognition and segmentation to accelerate data output.

Digital Image Analysis – Examples

Example cellular detection of oestrogen (ER) and progesterone receptors (PR) in human breast adenocarcinoma.



Digital Image Analysis – Examples



Example cellular detection in a mIF stained non-small cell lung carcinoma (NSCLC):

■ Nuclei (DAPI) ■ PD-L1 (Cy5) ■ CD8 (FITC) ■ CD68 (TRITC) ■ panCK (Cy7)



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