



Pathology

Pathology is the integrative discipline by definition, with a long tradition of integrating structure and function of disease. Pathology possesses a unique skill, **microscopic interpretation** that can be applied to the evaluation of the expressed phenotypes in both humans and animals. Pathology uses **multiple and irreplaceable tools**, particularly histology, ultra structure techniques and biomarkers.

In Aptuit Verona, outstanding skills and tools are available for toxicology and pathology, and are applied in a tailored manner to preclinical studies, in regulatory context (toxicologic pathology) with specialized expertise in discovery settings (discovery pathology).

FOCUS on:

QUALITY: Highly qualified staff and commitment in delivering results according to standardized procedures with GLP compliance

FLEXIBILITY: Integrated co-localized services (histology, ultra structure, biomarkers and diagnostics) addressing specific client requirements with focus on schedule, in addition to a comprehensive evaluation of results, enhancing the overall power of the animal model

Outline of Pathology Services

Necropsy

- Tissue collection according to standard or customized protocols, including special procedures for immunohistochemistry, electron microscopy, neuropathology, gene expression studies, swiss roll preparation, peripheral blood lymphocytes sampling for electron microscopy examination
- Fixation, including whole body perfusion in rodents and tissue freezing fixation
- Macroscopic and organ weight data recording
- Gross pathology reporting and interpretation
- Gross pathology photographic documentation

Histology and electron microscopy

- Trimming, according to standard and special procedures (e.g. enhanced brain and heart trimming)
- Processing to wax and resin for light or electron microscopy
- Bone tissue decalcification
- Cryomicrotomy (frozen sectioning)
- Histochemistry routine and special stains

- Immunohistochemistry
- Grid preparation for transmission electron microscopy
- Preparation for Scanning Electron Microscopy (SEM)
- Peripheral lymphocytes preparation for electron microscopy (biomarker for phospholipidosis in clinical setting)
- Morphometry
- Packaging for archive of residual tissues
- National and international transportation and documentation

Pathology

- Pathology evaluation, interpretation, integration and reporting
- Expertise covering toxicologic pathology in drug development, research animal model validation and characterization with focus on translation to human
- Diagnostic veterinary pathology
- International standards in terminology and diagnostic criteria addressing regulatory requirements and expectations
- Peer review

Pathology Services Applications

- Preclinical regulatory studies (acute and repeated dose studies, juvenile tox) investigative studies (e.g. targeting attrition issues)
- Discovery research (animal model of disease: study design, validation and characterization)
- Transgenic and knockout models phenotyping
- Diagnostic veterinary pathology
- Biomarkers identification and validation packages
- Ultra structural pathology
- Training and education
- Consultancy

Facilities and Capabilities

- Rodent and large species necropsy rooms, with fully computerized working stations and digital imaging systems for macroscopic observation photograph and remote discussion
- State-of-the-art histology laboratory facilities and instruments
- Electron microscopy unit (TEM; ESEM)
- Telepathology



Aptuit Verona

FACTSHEET



Pathology

Staff

- Histopathology technicians, with sound experience in preclinical pathology studies in GLP environments and in experimental animal models
- Skilled technicians in preparation of samples for the electron microscopy
- Pathologists with expertise on laboratory animals in drug development and research with competencies in risk assessment and translational research
- Clinical pathologist with expertise in biomarker setup, validation and interpretation in translational research

Regulatory Compliance

We provide our clients with services conducted under Good laboratory Practice (GLP) in regulatory-compliant facilities.

Additional Aptuit Capabilities

Aptuit offers a comprehensive suite of drug development services that range from drug discovery through to market, including consultancy services, API development and manufacture, preclinical technologies, clinical sciences, pharmaceutical development services, large and small scale manufacturing, IVRS and clinical packaging and logistics, across a wide range of compounds, dosage forms and delivery systems.

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Engineering a better drug development process through scientific excellence.