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**UT Health San Antonio  
Department of Pathology and  
Laboratory Medicine**

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**A College of American Pathologists (CAP) and  
Clinical Laboratory Improvement Amendments  
(CLIA)-certified laboratory.**

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[UTHealthSA.org/Pathology](http://UTHealthSA.org/Pathology)



DEPARTMENT OF  
**Pathology and  
Laboratory Medicine**



## Departmental Sections at a Glance

### **CYTOPATHOLOGY LABORATORY**

We offer cervical cancer screening using the liquid based Thin Prep Pap Test platform. Our laboratory works with the molecular diagnostic laboratory to offer HPV and Chlamydia/Gonorrhea testing from the Thin Prep Pap Test vial.

### **HISTOPATHOLOGY LABORATORY**

Offers the highest quality technical and professional support for patient care and research studies. Our Histology services include routine, immunofluorescence, immunohistochemistry, in-situ hybridization, special stains, and muscle enzyme studies. The clinical aspect of the laboratory offers a biopsy and consultation service for bone marrow, breast, gynecologic, liver, oral, prostate, renal, skin, and skeletal muscle cases. The laboratory has an NAACLS accredited Histotechnology Training Program which accepts 2-4 trainees every year for academic and clinical training in the study of Histotechnology.

### **MOLECULAR DIAGNOSTICS LABORATORY**

Molecular diagnostic tests for nucleic acid targets found in hematopathology, solid tumors, genetic disease, and infectious disease. Techniques such as next generation sequencing, real-time quantitative PCR, and capillary electrophoresis are used. Results of PML::RARA can be reported within 24-48 business hours of receiving sample.

### **CLINICAL AND MOLECULAR CYTOGENETICS LABORATORY**

The laboratory provides services for the UT Health San Antonio as well as to surrounding hospitals, clinics and physicians. We are a full-service laboratory performing routine chromosome analysis (RCA), Fluorescence In Situ Hybridization (FISH) testing for constitutional and acquired conditions using cutting-edge technology and CytoScan® Dx/HD SNP microarray on fresh tissues for pre and post-natal samples.

We accept all tissue types including amniotic fluid, chorionic villi, products of conception, blood, bone marrow, effusions, skin biopsy, solid tumors, and lymph nodes. The laboratory also provides all services for research projects.

### **ELECTRON MICROSCOPY LABORATORY**

The laboratory is a full-service facility that provides technical and professional support for patient care and research studies that require transmission and scanning electron microscopy.

### **FUNGUS TESTING LABORATORY**

Fungal species identification by phenotypic characteristics combined with DNA sequence analysis or MALDITOF MS, antifungal susceptibility testing of yeasts and moulds, measurement of antifungal drug levels in biological fluids, clinical trials, and preclinical drug development research.

### **FLOW CYTOMETRY LABORATORY**

Immunophenotypic analysis by multiparameter flow cytometry which is useful in the diagnosis/classification of acute leukemia, non-Hodgkin's lymphoma and the detection of residual leukemia/lymphoma following therapy. Also, panels for detection of Paroxysmal Nocturnal Hemoglobinuria (PNH) clones and detection of hemoglobin F in fetomaternal hemorrhage are offered.

### **ORAL AND MAXILLOFACIAL PATHOLOGY LABORATORY**

We offer a comprehensive, computerized service that processes biopsy and cytology specimens from the oral cavity and head and neck region. The laboratory is staffed by two pathologist board certified by the American Board of Oral and Maxillofacial Pathology.

### **CONSULTATION SERVICES**

We provide consultation services in surgical pathology, muscle pathology, neuropathology, hematopathology, gynecologic pathology, oral and maxillofacial pathology, and renal pathology. Our board-certified pathologists are recognized leaders in the field, providing clinical consultations to referring providers.





# Testing Services Offered By Each Laboratory

## Cytopathology Laboratory

- » Thin Prep Pap Test

## Histopathology Laboratory

- » Consultation Services
- » Immunofluorescence Studies
- » Immunohistochemical Staining
- » In-situ Hybridization Stains
- » Muscle Enzyme and Nerve Studies
- » Research and Development
- » Routine Histology
- » Special Stains
- » Tech only Services- Stain without interpretation

## Molecular Diagnostics Laboratory

### ONCOLOGY

- » BCL2 translocation major breakpoint by real-time PCR
- » BCR::ABL1 p190 quantitation by real-time PCR
- » BCR::ABL1 p210 quantitation by real-time PCR with report on international scale (IS)
- » BCR::ABL1 p210, p190, and PML::RARA STAT testing (2 business day TAT)
- » IGH clonality detection by PCR and capillary electrophoresis
- » IGK clonality detection by PCR and capillary electrophoresis
- » JAK2 mutation (p.V617F) detection by real-time PCR
- » PML::RARA translocation t(15;17) by real-time PCR
- » Solid Tumor OncoPanel by Next Generation Sequencing (NGS): detection of gene fusions and expressed hotspot mutations
- » TCRG clonality detection by PCR and capillary electrophoresis

### INHERITED DISEASE

- » Factor V Leiden (p.R506Q) mutation by real-time PCR
- » Hemochromatosis (HFE) 2 mutations by real-time PCR
- » Prothrombin (F2) G20210A mutation by real-time PCR

### INFECTIOUS DISEASE

- » BioFire Gastrointestinal Pathogen Panel: 22 pathogens
- » BioFire Respiratory Pathogen Panel, nasopharyngeal swab: 22 respiratory pathogens including COVID-19 (SARS-CoV-2)
- » Chlamydia trachomatis and Neisseria gonorrhoea testing by transcription-mediated amplification (TMA)
- » COVID-19 (SARS-COV-2) nucleic acid amplification test (NAAT), nasopharyngeal swab
- » COVID-19 (SARS-CoV-2)/Flu A/Flu B/RSV nucleic acid amplification test (NAAT), nasopharyngeal swab
- » Human papilloma virus (HPV) nucleic acid amplification test (NAAT)
- » Molecular identification of fungi (order through the Fungus Testing Laboratory)

## Clinical and Molecular Cytogenetics Laboratory

### GENETIC TESTING

- » Chromosome Analysis – AMNIOTIC FLUID
- » Chromosome Analysis – BLOOD
- » Chromosome Analysis – PRODUCTS OF CONCEPTION
- » Chromosome Analysis – SKIN

### CANCER TESTING

- » Chromosome Analysis – BONE MARROW
- » Chromosome Analysis – LEUKEMIC BLOOD
- » Chromosome Analysis – LYMPH NODE
- » Chromosome Analysis – SOLID TUMOR

### FISH – PANELS\*

- » ALL
- » AML/MDS
- » B-cell Lymphoma
- » CLL
- » MM
- » MPD
- » T-cell Lymphoma

\*Probes used on panels may be ordered as single tests.

### HIGH-RESOLUTION MICROARRAY

- » Chromosomal Microarray (Cytoscan® Dx Assay)
- » Chromosomal Microarray (Cytoscan® HD Assay)

## Cytogenetic Specialty Testing

### PERIPHERAL BLOOD CHROMOSOME ANALYSIS ON NEWBORNS WITH REFLEX TO MICROARRAY STUDIES

- » A preliminary report within 24 hours
- » Final result in 48 hours >90% of cases
- » Vital for clinical management decisions in NICU – eliminate other costly testing in cases with trisomies (i.e., microarray, etc.)

### PLASMA CELL ISOLATION FOR FISH/ CD-138 NEGATIVE FRACTION FOR CHROMOSOME ANALYSIS

- » Isolation of plasma cells - accurate FISH results
- » Optimization of testing when sample volume is inadequate
- » Vital for clinical management of patients of multiple myeloma patients

A board certified clinical cytogeneticist is available to provide assistance with utilization of tests, interpretation for all cases and discussion of abnormal results with the referring physician. Final reports are sent to all referring physicians, hospitals and laboratories by secure email or facsimile. Preliminary reports are transmitted upon request and photographs of all karyotypes and FISH results are available upon request.

## Electron Microscopy Laboratory

### CLINICAL TRANSMISSION ELECTRON MICROSCOPY

- » Cilia Biopsy
- » Heart Biopsy
- » Malignant and non-malignant tissue evaluations
- » Muscle Biopsy
- » Nerve Biopsy
- » Platelet whole mount
- » Renal Pathology Services

### RESEARCH TRANSMISSION ELECTRON MICROSCOPY

- » Biological and non-biological samples
- » Equipment training
- » Negative stain whole mount
- » Project consultation

### RESEARCH SCANNING ELECTRON MICROSCOPY

- » Biological and non-biological samples
- » Electron Backscatter Diffraction (EBSD)
- » Equipment training
- » Project consultation

## Fungus Testing Laboratory

- » Antifungal Drug Levels
- » Fungal Identification
- » Molecular Identification of Fungi
- » Susceptibility Testing

## Flow Cytometry Laboratory

- » Hemoglobin F Analysis (HbF)
- » Immunophenotyping for Leukemias and Lymphomas
- » Proxysmal Nocturnal Hemoglobinuria Testing (PNH)

## Oral and Maxillofacial Pathology

- » Biopsy Service - oral mucosal and bone diseases
- » Board certified by the American Board of Oral and Maxillofacial Pathology
- » Clinical and radiographic consultation services
- » Focus scoring for Sjögren syndrome
- » Immunofluorescence studies

We also have the option to offer local courier services for high-volume and esoteric testing.

