

Molecular Pathology

I. Hours of Operation

8:00 AM - 5:30 PM; Monday - Friday

II. Contact Section

Dr. Joseph Knezetic, Scientific Director, Phone: 280-2511

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Phone: 280-1895

III. Staffing

Molecular Pathology is staffed 8:00 am – 5:30 pm Monday through Friday by the scientific director and three molecular diagnostic specialists. Paraffin-embedded tissues received for CISH (chromogen in situ hybridization) or FISH (fluorescent in situ hybridization) studies are sectioned by the Histology department and the tests are performed twice a week. Specimens received for PCR and DNA sequencing tests are processed daily and reports generated within five days of receipt for PCR tests and two weeks for sequencing tests. TMA based assays are reported within three working days.

IV. Specimen requirements

CISH and FISH (tissue) studies require routinely processed formalin-fixed, paraffin-embedded tissue (please send the block). 3 mL of whole blood, collected in purple top (EDTA) tubes is required for PCR and DNA sequencing testing. MSI analysis needs both a normal tissue and a cancer tissue sample for analysis. TMA assay requires the Gen-Probe collection swab tube or urine tube.

V. Scope of testing

Molecular Pathology Lab at present utilizes seven different technologies to test cellular information at the nucleic acid level: CISH, FISH, PCR and RT-PCR, sequencing, invader and TMA. The tests can be performed on routinely fixed tissue sections and anti-coagulated blood or bone marrow. The molecular tests can be of quantitation or of qualification. The tests cover oncology to microbiology. Our pathologist staff is available for consultation. Departmental Bulletins are issued with each newly introduced test.

VI. Molecular Diagnostic Tests

1. CISH Tests
 - HPV High Risk Group (Tissue)
 - HPV Low Risk Group (Tissue)
 - Immunoglobulin Light Chain Kappa (mRNA) (Tissue)
 - Immunoglobulin Light Chain Lambda (mRNA) (Tissue)
 - EBER – Epstein Barr Virus (mRNA) (Tissue)
2. FISH Test
 - Her-2/neu (c-erbB2) Gene Amplification Study (Tissue)
3. PCR Test
 - Factor V Leiden Mutation Analysis (Blood)
 - Prothrombin Gene Mutation Analysis (Blood)
 - MTHFR Gene Mutation Analysis (Blood)
 - HCV Quantification (Serum)
 - HCV Genotyping (Serum)
4. MSI testing for Colonic Cancer (Tissue and/or Blood)
5. IgH gene rearrangement (Tissue)

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6. Microorganism identification by DNA sequencing (Microorganism Colony)
7. DNA sequencing for gene mutation identification (Blood)
 - JAK2 mutation (Blood)
 - BRAF mutation (Tissue)
8. Invader Testing
 - HPV high risk on PAP Smears (Sure Path and Thin Prep)
9. TMA – Transcription Mediated Amplification (Gen-Probe swab or urine collection tubes)
 - Chlamydia trachomatis* (CT)/*Neisseria gonorrhoeae* (GC) detection