



# Molecular Pathology

Our institute performs a broad panel of molecular diagnostic tests based on FFPE specimens:

## PCR based tumor diagnostics

- **ARMS** (alveolar rhabdomyosarcoma)
- **BRAF**, mutation analysis (codon 600)
- **c-KIT**, mutation analysis (exon 9, 11, 13 and 17)
- **EGFR**, mutation analysis (exon 18, 19,[20] and 21)
- **EndoPredict**, expression pattern in breast cancer
- **EWS**, translocation analysis [t(11;22) FLI1-EWS, EWS-CHOP]
- **GNAS1**, mutation analysis (exon 8)
- **JAK2**, mutation analysis (V617F)
- **KRAS**, mutation analysis (codon 12 and 13)
- **MSI** (microsatellite instability)
- **NRAS**, mutation analysis (codon 12, 13 and 61)
- **PDGFR**, mutation analysis (exon 18)
- **PIK3CA**, mutation analysis (exon 9 and 20)
- **SYT-SSX**, translocation analysis [t(X;18)]

## Immunoglobulin and T-cell receptor gene rearrangement analysis

- **Immunoglobulin heavy chain** (IgH) gene rearrangement
- **Immunoglobulin light chain** (IgL) gene rearrangement
- **T-cell receptor gamma** (TCR gamma) gene rearrangement
- **T-cell receptor beta** (TCR beta) gene rearrangement

## FISH based tumor diagnostics

- **ALK**, break
- **BCL2**, break
- **BCL2/IgH**, translocation, t(14;18)
- **BCL6**, break
- **BCR/ABL**, translocation, t(9;22)
- **CCND1/IgH**, translocation, t(11;14)
- **DDIT3 (CHOP)**, break
- **EGFR**, amplification
- **ETV6**, break
- **EWSR1**, break
- **FOXO1** (FKHR), break
- **FUS**, break
- **HER2**, amplification
- **HER2/TOP2A**, amplification
- **IgH**, break
- **MALT1**, break
- **MDM2**, amplification
- **MET**, amplification
- **MYC**, break, amplification
- **MYC/IgH**, translocation, t(8;14)
- **N-MYC**, amplification
- **RET**, break
- **ROS1**, break
- **SS18 (SYT)**, break
- **Trisomy 8**
- **Trisomy 9**
- **X/Y chromosome detection**
- **5q deletion** (5q31)
- **7q deletion** (7q31)
- **13q deletion** (13q14)
- **17p deletion** (17p13.1)
- **20q deletion** (20q12)

## PCR based detection of microorganism

### Viruses

- Adenovirus
- Cytomegalovirus (CMV)
- Enterovirus
- Epstein-Barr virus (EBV)
- Hepatitis B virus (HBV)
- Hepatitis C virus (HCV)
- Human herpes simplex virus (HSV-1, -2)
- Human herpesvirus 6 (HHV-6)
- Human herpesvirus 8 (HHV-8)
- Human papillomavirus (HPV), detection and typing
- Parvovirus B19
- Polyomavirus (BKV/JCV)
- Varicella zoster virus (VZV)

### Bacteria

- Bartonella (henselae/quintana)
- Borrelia burgdorferi (Lyme disease)
- Chlamydia trachomatis
- Helicobacter pylori
- Listeria
- Mycobacteria consensus (MOTT)
- Mycobacteria tuberculosis complex (Tbc)
- Pseudomonas aeruginosa
- Stenotrophomonas maltophilia
- Treponema pallidum
- Tropheryma whipplei
- Yersinia

### Other pathogens

- Amoeba (Entamoeba histolytica)
- Fungi PCR/typing
- Leishmania
- Mycoplasma (consensus/pneumoniae)
- Pneumocystis carinii (P. jirovecii)
- Toxoplasma gondii