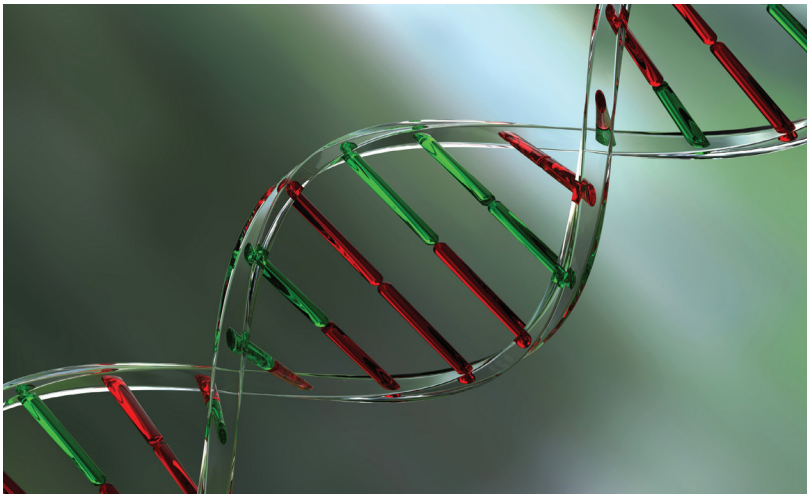
Experience.

MPLN CYTOGENETICS

Molecular Pathology Laboratory Network, Inc. (MPLN) has been on the forefront of laboratory medicine since its inception. Our highly skilled technologists are certified as clinical specialists in cytogenetics by the American Society for Clinical Pathology (ASCP). MPLN Cytogenetics provides accurate and efficient test results quickly, competitive prices, and the highest quality of service. Experience. MPLN.



Cancer Chromosome Studies

Cytogenetic analysis in neoplastic diseases involves the study of the cancer cells themselves. In leukemia, a bone marrow aspirate is usually obtained for study. In some cases, peripheral blood is used in place of the bone marrow, particularly if the white blood cell count is >10,000. The purpose of the cytogenetic study in hematological disorders is to detect the presence of acquired chromosome changes, i.e., those aberrations that have arisen secondary to the disease state.

The study of chromosomes in leukemia serves two functions:

- To assist in a more accurate diagnosis, thereby providing important prognostic information
- To identify the sites of consistent rearrangements and identify common changes early in order to characterize many clonal lines

Specific chromosome abnormalities often correlate with particular subtypes of disease. Serial samples from the patient permit the study of cytogenetic patterns during the various stages of a patient's clinical course.

Constitutional Chromosome Studies

Cytogenetic analysis to determine if constitutional abnormalities are present is performed for a variety of indications including multiple congenital abnormalities, mental retardation of unknown etiology, abnormalities of growth, features of a recognized genetic syndrome, recurrent pregnancy loss, prenatal diagnosis via amniocentesis, mosaicism, stillbirth, fetal loss, or molar pregnancy. Adjunct studies such as FISH or other molecular and biochemical testing can be performed in addition to chromosomal analysis.

FISH

In addition to offering high quality chromosome analysis, the cytogenetics laboratory also specializes in fluorescence *in situ* hybridization (FISH). FISH, a molecular cytogenetic technique, enables the analysis of disease specific abnormalities. It is offered for the detection of cryptic rearrangements, microdeletion syndromes, aneuploidy, and marker chromosome identification.

One Source

Coordinating laboratory tests and results within one facility, MPLN provides a single source for anatomic pathology, FISH, flow cytometry, cytogenetics, and molecular testing.

Using one source for your laboratory testing provides simpler logistics for ordering, molecular reflex testing, reporting, billing, and patient management.

Contact Us

For more information, visit us online at **www.MPLNet.com** or contact us at **800.932.2943**.

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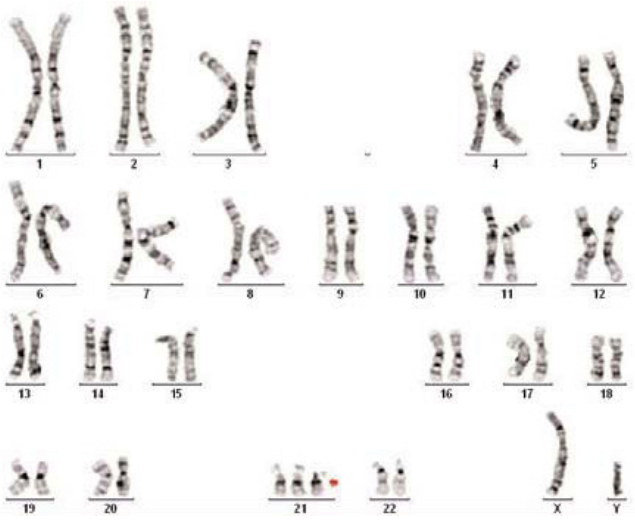
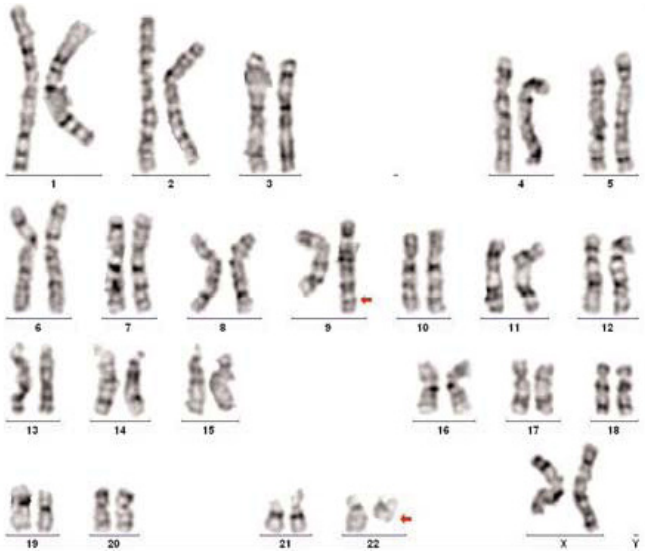


Karyotype showing trisomy 21 consistant with a clinical diagnosis of Down syndrome



Karyotype showing the Philadelphia translocation involving chromosomes 9 and 22

Test Name	Specimen Requirements
Cancer cytogenetics (CYTO BM, CYTO UPB, CYTO ST)	7mL (min. 5mL) whole blood or 3mL (min. 1mL) bone marrow in sodium heparin, 5mm^3 bone marrow core biopsy or fresh tissue in transport media, 4mL (min. 2mL) fine needle aspiration in tissue transport media, 15mL ascites, gastric pleural effusions in plain tube
Prenatal chromosome analysis (CYTO PN, CYTO AF)	30mL (min 20mL) amniotic fluid in 2-3 sterile tubes
Constitutional tissue chromosome analysis (CYTO TC)	Products of conception, fetal tissue, 1cm skin biopsy or other solid tissue in sterile tissue transport media
Constitutional peripheral blood chromosome analysis (CYTO PB)	7mL (min. 5mL) whole blood or 1ml newborn blood or 2mL (min. 1mL) percutaneous umbilical cord blood in sodium heparin
Fluorescence *in situ* hybridization	Peripheral blood, amniotic fluid, solid tissue, and bone marrow samples with or without routine chromosome studies; please see catalogue for more detailed information

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