Cytogenetics

Lab Order Mnemonic	Order Name/Test Procedures	Specimen Requirements
GP CYTO (GenPath) Universal Requisition	CYTOGENETICS - Chromosome analysis for hematological disorders of bone marrow is performed to identify specific chromosome rearrangements. These rearrangements in neoplastic cells are often correlated to specific types of leukemia or myelodysplasias. This information aids the clinician in diagnosis, predicting prognosis, and guiding treatment. Also known as Karyotyping and Chromosome Analysis *Please note diagnosis under consideration on the order.* Interpretive reports are issued upon completion, typically 7 to 10 business days. CPT Codes: 88237(1), 88262(1), 88291(1)	Collected Monday through Friday, to be received in the Laboratory by 1500. Preferred specimen: <u>BONE MARROW</u> - Room temp - 2 mL Heparinized Marrow (Gn) - Two aspirate slides must accompany the specimen Alternate specimen: <u>PERIPHERAL BLOOD</u> - RoomTemp - 5 mL Heparinized Blood (Gn) - Two peripheral smears must accompany the specimen <u>LYMPH NODE OR FRESH TISSUE</u> - Refrigerate - Fresh tissue submitted in RPMI
LAB MISC (QUEST 14595X) Universal Requisition	HIGH RESOLUTION BANDINGS - Available if indicated by clinical history. Methodology: Tissue culture Set up: Monday - Saturday Interpretive report available: 14 days CPT Code: 88230,88262,88289,88291	Minimum: Adults: 5-10 mL blood in sterile sodium heparin tube (Gn) Infants: 2-3 mL blood in small sterile sodium heparin tube (Gn) General instructions: Completed Quest Genetics request form must be included for analysis. Transport at ROOM TEMPERATURE. MUST be received in the Lab by 12:00 PM in order to be forwarded to the reference lab the same day.
LAB MISC (QUEST 14597X) Universal Requisition	MOSAIC STUDY - Available if indicated by clinical history. In clinically suspected cases of mosaicism, examination of more than 20 metaphases is necessary in order to detect a small percent of metaphases with the suspected chromosomal abnormality. Methodology: Tissue culture Set up: Mon - Sat Interpretive report available: 1 - 2 weeks CPT Code: 88230,88263,88291	Minimum: Adults: 5-10 mL blood in sterile sodium heparin tube (Gn) Infants: 1-3 mL blood in small sterile sodium heparin tube (Gn) General instructions: Completed Quest Genetics request form must be included for analysis. Transport at ROOM TEMPERATURE. MUST be received in the Lab by 12:00 PM in order to be forwarded to the reference lab the same day.

LAB CHR KAR AM (QUEST 14590X)	CHROMOSOME KARY – AMINO Amniotic fluid cells from two or more primary cultures are studied. G-banded metaphases are analyzed microscopically for numerical and structural abnormalities and representative metaphases (minimum of 2) are karyotyped. Additional charges will be assessed when: a) Special stains are necessary for interpretation, b) additional cells must be evaluated for interpretation. Methodology: Tissue culture Set up: Daily Report available: 8-14 days POC results may not be available for up to 5 weeks . Phone report followed by interpretive report CPT Code: 88235,88269, 88280, 88291	Minimum: 20 mL amniotic fluid Transport at ROOM TEMP Samples must be received at ECH by 12:00 PM in order to be forwarded to the reference lab the same day. Completed Quest Genetics Form MUST be included. Contact Genetics Department (800-336-3718) in advance to schedule date for submitting fluid and obtain amniotic fluid kit and handling instructions. NOTE: If additional non-cytogenetic tests are to be performed on amniotic fluid, please call the Genetics Department for specific specimen submission requirements.
LAB MISC (QUEST 14593) Universal Requisition	PRODUCTS OF CONCEPTION (FETAL, SKIN, AND SURGICAL TISSUE) Approximately 50% of first trimester spontaneous abortuses have abnormal karyotypes. This test is useful to determine cause of miscarriage and inheritance potential. Submitted placental and/or fetal tissue is cultured. When available, at least 20 G-banded metaphases are examined microscopically for numerical and structural abnormalities and representative metaphases (minimum of 2) are karyotyped. As products of conception can be contaminated or be necrotic by the time of collection, tissue culture may be unsuccessful. Additional charges will be assessed when: a) Special stains are necessary for interpretation, b) Additional cells must be evaluated for interpretation. Methodology: Tissue culture Set up: Monday – Saturday Interpretive report available: 3 - 5 weeks CPT Code: 88233,88262, 88291	Minimum volume: 2 – 3 mm Alternate specimen: 2 x 3 mm tissue - Sterile container w/culture, antibiotics (Fresh); refrigerated Specimen container: Sterile container with Hank's or Ringers solution; refrigerated Autosomal or sex chromosome mosaicism not detected in lymphocytes may be determined in fibroblasts obtained from a tissue biopsy. Cells from organ biopsies obtained postmortem may still be suitable for chromosome analysis when the patient's blood is of questionable viability. Fetal tissues or extra embryonic membranes are frequently used to diagnose fetal chromosome abnormalities that are associated with approximately one-half of all first trimester spontaneous abortions. Another approach is the study of parental karyotypes from peripheral blood for potential abnormalities that may be heritable in unbalanced forms. This is generally recommended for couples who have spontaneous losses (Test code QUEST 14596).

LAB CHR KAR BL (QUEST 14596)	PHA-stimulated peripheral blood lymphocytes are studied. A minimum of 20 G-banded metaphases are analyzed microscopically for numerical and structural abnormalities and representative metaphases (minimum of 2) are karyotyped. Additional charges will be assessed when: a) STAT culture is deemed appropriate b) Special stains are necessary for interpretation c) Additional cells must be evaluated for interpretation. Methodology: Tissue culture Set up: Daily Interpretive report available: 14 days CPT Code: 88230,88262,88291	Minimum: Adults: 5-10 mL blood in sterile sodium heparin tube (Gn) Infants: 2-3 mL blood in small sterile sodium heparin tube (Gn) General instructions: Completed Quest Genetics request form must be included for analysis. Transport at ROOM TEMPERATURE. Specimens MUST be received by 12:00 PM in order to be forwarded to the reference lab the same day. Collected Monday - Friday only.