Twin Zygosity: DNA-Based Testing

Test Code: ZT
Turnaround time: 2 weeks
CPT Codes: 81265 x1

Condition Description

Indications

Twins can be either monozygotic (identical) or dizygotic (non-identical). Identifying zygosity of twins is essential in diagnosing and treatment of certain genetic conditions. Testing may be performed on prenatal and postnatal samples. Samples from the twins, as well as both maternal and paternal blood, must be submitted. Amniocytes, chorionic villus, or blood samples from the twins can be used for analysis.

Methodology

Comparative analysis of DNA samples has been conducted using PCR of polymorphic sites at the following fifteen markers: D8S1179, D21S11, D7S820, CSF1PO, D3S1358, TH01, D13S317, D16S539, D2S1338, D19S433, vWA, TPOX, D18S51, D5S818, FGA. Fragment analysis was performed using capillary electrophoresis.

Parental samples are used to determine likelihood of dizygotic twins having the same allelic pattern as monozygotic twins.

Detection

Over 99% of twin pairs tested will be determined to be monozygotic or dizygotic.

Reference Range

Qualitative assay.

Specimen Requirements

Submit only 1 of the following specimen types

Type: DNA, Isolated

Specimen Requirements:
- Microtainer
- 20µg
  Isolation using the Perkin Elmer™Chemagen™ Automated Extraction method or Qiagen™ Puregene kit for DNA extraction is recommended.

Specimen Collection and Shipping:
- Refrigerate until time of shipment in 100 ng/µL in TE buffer. Ship sample at room temperature with overnight delivery.

Type: Whole Blood (EDTA)

Specimen Requirements:
- EDTA (Purple Top)
  - Infants and Young Children (2 years of age to 10 years old): 3-5 ml
  - Older Children & Adults: 5-10 ml
  - Autopsy: 2-3 ml uncotted cord or cardiac blood

Specimen Collection and Shipping:
- Ship sample at room temperature for receipt at EGL within 72 hours of collection. Do not freeze.