

CLIA Division Description of Services

This document describes the services offered by the Clinical Laboratory Improvement Amendments (CLIA) Division of the Emory Integrated Genomics Core (EIGC, <http://eigc.emory.edu>; CLIA: 11D1086150).

DNA Isolation

This service consists of isolating DNA from a variety of sample types. Specific service details for different types of arrays are outlined below and may be edited or included as written for your grant proposals.

All samples are registered into our Laboratory Information Management System (LIMS) and evaluated for quality by the EIGC staff members. All isolated DNA is quantitated by spectrophotometric methods using the Tecan Infinite M200 Pro and is evaluated for quality by agarose gel electrophoresis.

Whole Blood: Investigator provides 200 µl of frozen blood in 1.5 mL tube or 2-5 mL of blood in Tempus Tubes or EDTA blood tubes. Genomic DNA is extracted from blood or buffy coat using the Mag-Bind SQ Blood DNA Kit (Omega Bio-Tek; M6213-02) in conjunction with the KingFisher Flex Magnetic Particle Processor (ThermoFisher), SQ Blood DNA Kit II (Omega Bio-Tek; D0714-50), or the QiAmp Blood Mini Kit (Qiagen; 51104).

Buffy Coat, Plasma, Serum: Investigator provides 200 µl of buffy coat, plasma, or serum. Genomic DNA is extracted using the QIAamp Blood Mini Kit (Qiagen; 51104).

PBMC: Investigator provides PBMC aliquot. Genomic DNA is extracted from approximately 5 million cells using the QIAamp Blood Mini Kit (Qiagen; 51104).

Tissue and Cultured Cells: Investigator provides 25 mg of tissue or 5 million cells. Genomic DNA is extracted from tissue or cells using the QIAamp DNA Mini Kit (Qiagen; 51306).

FFPE Tissue: Investigator provides 8-10 paraffin sample sections, 5-10 µm thick. Genomic DNA is extracted from FFPE curls, slides or cores using the E.Z.N.A. FFPE DNA Kit (Omega Bio-Tek; D3399).

Saliva: Genomic DNA is extracted from saliva collected in Oragene (DNA Genotek) collection tubes using the Mag-Bind Saliva DNA Kit (Omega Bio-Tek; M0312-EUW) in conjunction with the KingFisher Flex Magnetic Particle Processor (ThermoFisher).

Soil: Genomic DNA is extracted from fecal, gut material, vaginal swabs, rectal swabs, or buccal swabs using the DNeasy PowerSoil Kit (Qiagen; 12888).

RNA Isolation

This service consists of isolating RNA from a variety of sample types. Specific service details for different types of arrays are outlined below and may be edited or included as written for your grant proposals.

All samples are registered into our Laboratory Information Management System (LIMS) and evaluated for quality by EIGC staff members. All isolated RNA is quantitated by spectrophotometric methods (either NanoDrop N-100 Spectrophotometer by Thermo Scientific or Tecan Infinite M200Pro) and is evaluated for quality using the BioAnalyzer.

Whole Blood: Investigator provides 200 µl of whole blood. Total RNA is extracted from blood using a Trizol LS (Invitrogen; 10296010)/chloroform extraction followed by the miRNeasy Mini Kit (Qiagen; 217004).

Buffy Coat: Investigator provides 200 µl buffy coat, RNA is extracted using miRNeasy mini kit (Qiagen; 217004).

Plasma and Serum: Investigator provides 200 µl plasma or serum. RNA is extracted using miRNeasy Serum/Plasma Kit (Qiagen; 217184).

PBMC: Investigator provides PBMC aliquot. RNA is extracted from approximately 5 million cells using miRNeasy mini kit (Qiagen; 217004)

Tissue and Cultured Cells: Investigator provides up to 50 mg of tissue or up to 10 million cells. If the provided material is up to 5 mg of tissue or up to 1 million cells, total RNA is extracted from tissue or cells using the miRNeasy Micro Kit (Qiagen; 217084). If starting material is between 5 mg and 50 mg of tissue or 1 million and 10 million cells, total RNA is extracted using the miRNeasy Mini Kit (Qiagen; 217004)

FFPE Tissue: Investigator provides 8-10 paraffin sample sections, 5-10 µm thick. Total RNA is extracted from FFPE curls, slides or cores using the E.Z.N.A. FFPE RNA kit, Heat Extraction Method (Omega Bio-Tek; R6954).

EIGC is happy to accommodate DNA and RNA extractions from other sample types not listed in this document.