**Cleveland Clinic**

**Center for Immunotherapy and Precision Immuno-Oncology**

**Immunomonitoring Laboratory (IML) Services**

**Sample Procurement, Processing and Banking**

 Blood

Processing of whole blood for PBMC, Plasma (or Serum) and freezing

Serum/Plasma collection and freezing (no PBMC)

PBMC retrieval, thawing and counting

 Fresh Tissue

 Procure specimen

 Dissociate to single cell suspension and freeze

 Formalin-fixed, paraffin embedded tissue (PLMI prices)

 Pull and re-file slides, per case Pull and re-file blocks, per case

 Block selection per case

 Cut piece of tissue from block, re-embed case (Daughter block)

 Cassette, process, and embed tissue block

  Unstained paraffin recut, Initial Slide

 (Unstained paraffin recut, additional slides) per slide

 Unstained paraffin section in Eppendorf tube

 Frozen Tissue

 Frozen tissue, retrieve, transfer, re-file, initial specimen

 Retrieve, OCT embed, transfer, re-file, each specimen

 Frozen section, unstained (2 sections/slide), each slide

 Frozen section + HE/Dif Quick stain, each side

 Frozen Shaving in Tube w*l* Pre & Post HE stains, each tube

 Frozen Shaving in Tube, each tube

**Immune Analysis**

 Flow Cytometry

 Multicolor flow cytometry standard panelswhole blood Multicolor flow cytometry standard panelsPBMCs

 High parameter flow cytometry myeloid panel

High parameter flow cytometry T cell panel

 High parameter flow cytometry T cell exhaustion panel

 Custom panel design and optimization

 Staining and FACS cell sorting

 Cytokine/Serology Assays

 Multiple cytokine analysis (56 analytes)

 Proteomics Olink platform(Price per sample per panel 92 analytes)6

 Tumor Antigen ELISA

 Functional Assays

 T cell proliferation assay ELISPOT

 T cell proliferation assay intracellular cytokine

 T cell suppression assay

 Nucleic acid isolation and analysis

 RNA isolation from fresh tissue/PBMC

 DNA isolation from fresh tissue/PBMC

 RNA isolation from frozen tissue

 DNA isolation from frozen tissue

 RNA isolation from FFPE tissue

 DNA isolation from FFPE tissue

 Nanostring analysis

**Immune Phenoptics**

 H&E paraffin recut, per slide

 Enzyme histochemistry, per slide

 Conventional special stain

 Tumor circling and purity quantification

 Multispectral Imaging