### Emory Glycomics and Molecular Interactions Core - MAJOR EQUIPMENT

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**Major Equipment for Emory Glycomics and Molecular Interactions Core (EGMIC) Users**

**EMORY GLYCOMICS AND MOLECULAR INTERACTIONS CORE (EGMIC)**

Quanterix (Aushon) 2470 Arrayer – Microarray Printing Platform: Aushon’s 2470 microarrayer produces high quality arrays of DNA, proteins, glycans, polysaccharides, cell lysates and a variety of other samples using its proprietary soft touch deposition technology. The 2470 is a highly engineered platform designed with quality, reliability, flexibility and true walk-away automation in mind. Our unique deposition technology enables printing of even complex biological samples onto a broad range of substrates such as slides, membranes, microtiter plate wells, disks, wafers and chips.

The 2470 Arrayer has unmatched versatility, able to print any sample type onto substrates with unique shapes and chemistries as well as the most delicate of substrates such as nitrocellulose and silicon chips. From genomic materials to antibodies and cellular lysates, Aushon’s unique solid pin architecture reliably produces arrays of exceptional quality.

InnoScan® 1100 AL: The InnoScan 1100 AL is a high-resolution 3-color fluorescence scanner. With a resolution of up to 0.5µm/pixel, this scanner can scan a whole slide into high quality image. Combining high performance with full automation, InnoScan 1100 AL is ideal for high-density or three-color microarrays as well as for cell microarrays. Characterized by its ease of use, performance and versatility, the InnoScan 1100 AL is the ideal tool for cell microarrays as well as three-color microarrays.

·       High quality images: With a resolution of up to 0.5µm/pixel or a 20x objective equivalent, the InnoScan 1100 AL is the highest resolution microarray scanner on the market. This combined with a real time autofocus system and confocal PMT detection; the InnoScan 1100 AL provides high-quality images for detailed analysis of your microarrays.

·       Easy automation: Provided with a user-friendly image acquisition software and 24-slide autoloader, the InnoScan 1100 AL is capable of fully automated scanning of 24 slides at a time.

·       Multiplexed whole slide imaging: The InnoScan 1100 AL is capable of scanning any microscope slide with various substrates: cells, tissue, proteins, DNA, glycans, peptides and others. Equipped with three excitation channels, it empowers users with more multiplexing capabilities, thus allowing the analysis of several samples or markers on the same slide.

BiaCore™ X100: The Biacore X100 is a complete solution for biochemistry, molecular biology, or other research laboratories involved in the study of molecular interactions. The system contains all the key functionalities needed for day-to-day molecular interaction research with the purpose of understanding protein function and biological mechanisms.

·       Real-time insights into protein function & biological mechanisms

·       Kinetics, affinity, specificity and concentration analysis in one system

·       Define structure/function relationships

·       Understand the dynamics of molecular pathways

·       In development and research studies, select promising molecules that could be novel targets for research use, diagnostics, or therapy.

·       Develop and run assays for interactions involving LMW compounds

Biacore systems are used in areas such as pharmaceutical drug discovery, antibody characterization, proteomics, immunogenicity, biotherapeutic development and manufacture, and many life science research applications. A range of systems meet specific application needs. Customers include leading research centers, all of the leading global pharmaceutical companies, and many biotechnology companies.

MicroCal Auto-iTC200: The MicroCal ITC isothermal titration calorimeters all allow direct, label-free in solution measurement of binding affinity and thermodynamics in a single experiment, enabling the accurate determination of binding constants (KD), reaction stoichiometry (n), enthalpy (ΔH) and entropy (ΔS). This provides a complete thermodynamic profile of the molecular interaction. ITC goes beyond binding affinities and can elucidate the mechanisms underlying molecular interactions.

The MicroCal Auto-iTC200 is a fully automated, low volume, highly sensitive isothermal titration calorimeter. It delivers direct, label-free in solution measurement of all binding parameters in a single experiment. Applications include characterizing molecular interactions of small molecules, proteins, antibodies, nucleic acids, lipids and other biomolecules. It can also be used to measure enzyme kinetics.

Bruker UltraFlexII MALDI-TOF/TOF: Features high sensitivity, resolution and mass accuracy of MALDI-TOF and TOF/TOF technology for high-success expression proteomics and advanced biomarker discovery studies. It is also routinely used for glycomics profiling. MALDI-MS is easy to operate and is especially convenient for characterization of large biomolecules such as proteins, nucleic acids and polymers due to its high mass limit.