

Biomarker Core Lab facilities in the Department of Biobehavioral Health

The Biomarker Core Lab (BCL) in the Department of Biobehavioral Health (BBH) at Pennsylvania State University (PSU) provides biomarker research support and training as well as fee-for service testing. The BCL consists of 3 laboratories, totaling 2,400 square feet, a separate 100 square feet lab designated for pre-PCR protocols, a private sample collection room, a 140 square feet cold room, and access to subject interview rooms and conference rooms. It is located in the Health and Human Development Building in University Park, Pennsylvania.

The staff of the BCL is overseen by Sheree Logue, PhD. as laboratory director and consists of a Research Professor in human genetics (Sue Rutherford Siegel, PhD.) and a laboratory manager (Matthew Ulrich). Our staff has 28 years experience in molecular genetic techniques including high throughput genotyping, sequencing, RNA analysis, tissue culture and cloning and 18 years in ELISA and bead-based research and development assays. Common tests performed include ELISA analysis, multiplex analysis, and telomere length from human and animal subjects. Types of samples routinely processed include saliva, serum, plasma, blood, buccal swabs, blood spots, hair and urine.

The laboratory contains eleven computers for data collection and analysis, all are connected with other departmental computers via a network, and have a high speed connection to the internet. There are two standard printers, one double-sided printer, one all-in-one printer and two direct thermal label printers for labeling tubes.

Equipment in the BCL includes two 6' chemical fume hoods, a HEPA filtered Biological Safety Cabinet, BioTek Synergy 2 plate reader, BioTek EL408, BioTek EL 406 plate washer and dispenser with multiple valves, BioTek 405LS plate washer, BioTek Precision pipetting system, two multiplex platforms: MesoScale Discovery Quick-Plex & BioRad Bioplex 200, Qiagen QIAgility high precision automated PCR robotic system, Qiagen Rotor-Gene Q real time PCR machine, the Roche COBAS e411 ECL blood analyzer, the Roche COBAS e311 blood chemistry analyzer, a Nanodrop One spectrophotometer, three high-speed refrigerated centrifuges, three microfuges, precision analytical balances, single & multi-channel pipettes, three refrigerators, two -20°C freezers, three -80°C freezers with external alarms, autoclave, ice-machine, liquid nitrogen storage tanks, incubator, electrophoretic power supplies, nitrogen evaporator, bead mill, Aqua Solutions ultrapure Type I water purification system, plate shakers, vortex mixers, and water baths.