Regional Biocontainment Laboratory (RBL)

The RBL Core's mission is to provide state-of-the-art Biosafety Level 3 (BSL-3) and Animal Biosafety Level 3 (ABSL-3) containment laboratories that support the research community and the National Biodefense Network.

Facility Description

The Regional Biocontainment Laboratory (RBL) is one of 12 such facilities throughout the country that was constructed with funds secured by an extramural (NIH/NIAID) award with a match by the University. The RBL became operational in 2010 and was approved for select agent use through the Centers for Disease Control and Prevention (CDC) and received AAALAC accreditation. The RBL is a 30,000 sq. ft. facility housing six ABSL-3 suites, eight BSL-3 laboratories, and one large BSL-2 laboratory with a cell culture suite. The RBL provides high containment laboratory space as well as specialized equipment and technical services to support campus research needs for in-vitro and in-vivo projects.

Equipment and Services

All labs in the RBL are equipped with essential laboratory equipment: **static and CO_2 incubators, refrigerators, -80 freezers, centrifuges, Class II biosafety cabinets, UV spectrophotometers, vortex, water bath, heat block, pipette aids, etc.** Additional shared equipment is also available for use or fee-for-service including: **FACS Aria II flow cytometer/ cell sorter, Luminex Milliplex analyzer, Perkin-Elmer Janus robotics/fluidics** system and **plate reader** for high-throughput multiwell plate-based assays, and a **Delta Vision live-cell deconvolution microscope**.

The ABSL-3 suites each contain a dedicated anteroom, fully equipped animal procedure room, and an adjoining animal holding room. All animals are housed within **Allentown BioContainment Unit (BCU) caging systems** and are monitored via a WiCom system. **Inhalation anesthesia machines** and **induction chambers** are provided free of charge to investigators housing animals in the RBL. Specialized support equipment includes a **Perkin Elmer (Xenogen) IVIS Spectrum** live whole-animal imaging system and a **BioAerosol Nebulizing Generator (BANG)** unit for nose-only aerosol delivery of agents to mice. RBL management staff are AALAS certified at the laboratory animal technologist (LATG) level and may be contracted to assist with or to perform animal work. ABSL-2 projects can also be supported in the RBL, along with housing and care of irradiated/immunosuppressed animal models.

Laboratory and animal space is assigned based on research needs and specific pathogen(s) in use. The RBL provides all training for work within the facility, including the clearance process and training for work with select agents. Other services provided by the RBL to support research includes all required personal protective equipment (PPE), decontamination supplies, biohazard waste disposal products, autoclaving of waste, and laboratory cleaning and maintenance. RBL staff are also available to **certify biosafety cabinets (BSCs) on campus** and to **repair small laboratory equipment.**

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