UNIVERSITY OF OKLAHOMA HEALTH SCIENCES CENTER (OUHSC) FACILITIES AND RESOURCES

College of Pharmacy, Core Facilities for Basic Sciences

Cell Culture Facility:
The cell culture facility is equipped with water jacketed CO_2 tissue culture incubator, safety hoods, Accuri C6 flow cytometer, and water bath.

Common Instruments Laboratory:
Includes Molecular Devices Phosphorimager, laboratory centrifuges, Beckman high speed refrigerated centrifues, ultracentrifuges, gel documentation system with camera attachment, an upright microscope equipped with fluorescence, digital camera attachment and imaging software, Cytofluor fluorometer in microplate format and Molecular Devices SpectraMax 384 microplate reader with UV/VIS options in cuvette and microplate formats and Softpro software are available in the Common Instruments Laboratory in the department. A Millipore water purifying system, cold (4^{o}C) rooms and ice machine are available on the same floor of the Common Instruments Laboratory. Additional biosafety cabinets, hot-air oven, liquid-scintillation counter, clean-air benches, ultra-low (-80ºC) freezers, dishwashing equipment, x-ray developer and dark room, environmental incubators, nucleovision imaging workstation, lyophilzer, beta counters, gamma counter, BioRad Experion Analytical System and autoclave are also available in the department. The department is currently in the process of purchasing an inverted fluorescent microscope for live cell imaging.

Radiochemistry Laboratory:
Knaur and Beckman HPLC systems with the ability to perform gradient and semipreparative HPLC. The HPLC system is equipped with a Beckman 126 Programmable Solvent Delivery Module and two Beckman 110 Pumps, a Beckman 166 Programmable Absorption Detector Module, a Carroll and Ramsey Associates Model 101-S-DC radiation detector system, a SRI Instrument Model 302 six channel USB chromatography data system, a Beckman 507 Autosampler, a Rheodyne Model 7725i Sample Injector, and connected to a Bioscan Mini-Scan TLC and HPLC Radiochromatography System equipped with flow count dual PMT base unit and scanning unit, PMT/Nai-1" remote detector for high energy gammas, and PMT/NaI detector operated by a computer using Biochrom Lite software. Waters LC Module I HPLC system equipped with a Waters 410 Differential Refractometer and a Waters 470 Scannin Fluorescence detector. The laboratory has shielding for PET radionuclides, a Capintec CRC-15R dose calibrator, Cobra II gamma counter (Packard), refrigerated tabletop centrifuge (Hermle, Z400K), Perkin Elmer spectrophotometer (Lambda 4B), -20ºC freezer, refrigerators, Buchi rotary evaporators (2), Labconco 6L Stoppering-tray Freeze dryer, 4 and 5 ft laminar flow units (Forma Scientific and ESCO), Chemical hoods (6 ft, 4 in number), Beckman Coulter LS6500 Multi-Purpose Scintillation counter, Lauda heating/Cooling circulator and Avestin C-3 EmulsiFlex with extruder.and ancillary laboratory equipment.

Real Time PCR:
This system is based on the proven and reliable ABI 7000 thermal cycler, which uses peltier technology to heat and cool the reaction block. It uses standard size 200 ul PCR reaction tubes, or can accommodate a 96 well plate. The instrument is a complete "turn key" system, which can accomplish all aspects of basic real time PCR. The system can support two homogeneous reaction chemistries, the fluorogenic 5' nuclease assay using TaqMan probes and the SYBR Green I double stranded DNA binding dye chemistry. It is supplied with emission filters that are optimized for FAM/SYBR Green 1, VIC/JOE, NED/TAMRA, and ROX dyes. The instrument is very sensitive and can distinguish between 5,000 and 10,000 template copies with an advertised 99.7% confidence level. Location: College of Pharmacy, Room 357.

Research Imaging Facility (RIF):
RIF is fully equipped with instruments needed to perform CT/PET investigations. The imaging machine is housed in 444 sq. ft space with approved facilities for radioactivity handling and disposal, etc. The imaging facility is connected to the animal recovery and surgery rooms (172 sq ft) to house animals that have undergone imaging procedures. There is a surgery room with a supply of gas anesthesia, warming lamp, biohazard waste disposal box and other necessary supplies. The entire facility is overseen by a Research Associate under the direction of Dr. Vibhudutta Awasthi.

CT/PET system: Flex X-O/X-PET (Gamma Medica Ideas, CA). The system has a capability of acquiring both CT and PET using the same scanner bed. The CT data can be acquired to make an anatomical template, with which PET data can be fused. The maximum resolution of the CT is about 50 µm. PET data acquisition is done in the list mode, which enables the best flexibility of frame times in studying dynamic tracer accumulation. The images are reconstructed using filtered back projection algorithm. It has an axial field of view (FOV) of 11.6 cm and a transaxial FOV of 10 cm. The resolution of PET scan with F-18 labeled tracer is less than 2 mm, both in plane and axially. The machine is supplied with Amira image visualization and analysis software.

Nuclear magnetic resonance (NMR) Facility:
NMR facility is equipped with Mercury VX-300 NMR Spectrometer with a 2-channel Mercury console with PRG and VT options, 1-5 mm Varian liquid probe (broadband 2 channel (H/X) with lock), and Oxford ALOX 300 magnet. It is controlled with Vnmr 2.2D on Dell Precision T3500/ Linux OS. The instrument is located in the room COP 341 (100 sq. ft) and managed by Dr. Youngjae You (605-271-6593 x47473). Currently, it can be used for solution samples with 1H, 13C, 31P nuclei.

SHARED FACILITIES

Room	Description
CPB 343	Sorvall RC5C Plus floor centrifuge
CPB 343	CL-1000 Ultraviolet Crosslinker (UVP)
CPB 343	Bio-Tek ELx 800 96-well microplate reader
CPB 343	UV gel documentatio system (UVP)
CPB 343	Beckman GPR table-top centrifuge with swing out rotor
CPB 356	Time-lapse video-recording system
CPB 356	Nikon (Diaphot 300) inverted microscope with video camera (Olympus Corp., Model DP70-BSW-V1.2) inserted into the optical system
CPB 260	MylQ real time PCR
CPB 260	Speed vac concentrator
CPB 260	Sorvall superspeed centrifuge
CPB 260	Refrigerated microfuge
CPB 259	Ultralum Molecular Imaging and Analysis System: gel documentation with uv/vis/chemi and fluorescence detection
CPB 259	Allegra refrigerated table top high speed centrifuge (small volumes)
CPB 259	Microbalance
CPB 255	Denville 210A Microcentrifuge
CPB 255	Denville 260D Microcentrifuge
CPB 255	ELGA Purlab Ultra water system
CPB 255	Fisher Sonic Dismembrator Model 300
CPB 255	Nunc Immuno Wash 12
CPB 255	Perkin Elmer Gene Amp PCR 2400
CPB 255	Biometra TGradient
CPB 255	Pharmacia LKB Ultrospec III
CPB 255	Shimadzu Data Recorder DR3
CPB 255	Shimadzu Spectrofluorophotomer RF 540
CPB 144	Ludlum Model 14C survey meter equipped with a Ludlum Model 44-9 GM pancake type detector
CPB 144	Savant SC110 SpeedVac concentrator system
CPB 144	VWR Clinical 200 Large Capacity Centrifuge
CPB 144	Buchi rotavap
CPB 249	Refrigerated microfuge
CPB 249	Thermally controlled (heated/cooled) microtube vortexer/shaker Pharmacia FPLC
CPB 249	Small 24 place thermal cycler

CPB 249	Hybridization oven
CPB 352	Invitrogen's iBlot system
CPB 352	VWR Inverted microscope with digital camera
CPB 352	UVP UV transilluminator
CPB 352	Spectrafuge microcentrifuge
CPB 352	Techne TC312 PCR thermal-cycler
CPB 352	Omni homogenizer

Comparative Medicine & Animal Housing Facilities

The University has a centralized animal care facility under the direction of a DVM, and a staff of four other DVM's, technicians, and animal caretakers. Comparative Medicine maintains a complete clinical laboratory on the 2nd floor of the BMSB, College of Medicine, OUHSC. Diagnostic equipment includes an automated blood cell counter, stat chemistry analyzer, blood gas unit, facilities for parasitology analysis, and a limited bacteriology laboratory. A histopathology laboratory is located in the area of the clinical laboratory. A complete necropsy room with a walk-in cooler for carcass storage is also located on 2nd floor of the BMSB. Several other procedure rooms equipped with fume hoods, sinks and working benches and surgical suites are available within the animal facility. The animal facility is equipped with an automatic cage washing machine, refrigerator, autoclave, Sterrad 100 hydrogen peroxide Sterilizer and storage area. Comparative Medicine is United States Department of Agriculture (USDA)-registered and has an Assurance on file with the Public Health Service (PHS). The institutional program for the care and use of animals has been fully accredited by Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC, International) since 1973.

The conventional animal facility is appropriate for housing animals used in short-term rodent studies. The rodent barrier facility is appropriate for longer term studies and is equipped to support studies utilizing BSL3 level microorganisms and is funded in part by a grant from the National Center for Research Resources. Primate studies are performed at the Animal Research Annex on the OUHSC campus.

The Baboon Research Resource Program consists of professional staff members that have special expertise in nonhuman primate medicine, laboratory animal pathology, laboratory animal medicine, surgery, theriogenology, and nonhuman primate behavior. Experienced laboratory animal technicians perform husbandry duties 365 days a year and observe all animals several times daily, reporting directly to the Director of the facility. There are two facilities housing the baboon colony. The Animal Resources Annex is a dedicated building located on the OUHSC Campus, and the Baboon Breeding Resource at the Ft. Reno Science Park is located on 25 acres in the 7,000 acre USDA Ft. Reno Grazinglands Forage Laboratory. It consists of 4, 0.5-acre outdoor corrals directly connected to sheltered indoor gang cages within a central building.
Surgical procedures and necropsies are performed at the Animal Resources Annex, OUHSC campus. The Animal Resources Annex at OUHSC campus is located approximately 150 yards from the College of Pharmacy and is easily accesible.