**MAJOR Equipment**

**Shared equipment at the RNA Therapeutics Institute (RTI)** RTI departmental equipment includes two double Eppendorf New Brunswick Innova 44/44R shakers and a triple Thermo MaxQ 8000 model 443/493 incubator shaker, two Isotemp Gravity microbiological incubators, Beckman XE-90, L-90K, and Optima Max-TL ultracentrifuge, a Beckman Avanti JXN-26 centrifuge, a Beckman Avanti J-26XP centrifuge with elutriator, two Beckman Avanti JE centrifuges and one RC-6+ Sorvall centrifuges, a Varian Cary 50 UV Spectrophotometer, a PerkinElmer Tri-Carb 2910 Liquid Scintillation Counter, two Bio-Rad ChemiDoc MP Molecular Imager systems and a GE Healthcare ImageQuant LAS 4000 Biomolecular Imager (for gel documentation, fluorescence with red, blue, green and UV, and chemiluminescence with over four orders of magnitude of signal linear dynamic range), a GE Healthcare Typhoon FLA 9500 and a FLA7000 Biomolecular Imager (for storage phosphor and fluorescence), a Fisher model 120 sonic dismembrator, a Branson D450 sonicator with cup horn, two Bio-Rad CFX96 Touch and one Opus 96 real-time PCR systems, a Bio-Rad C1000 PCR machine, a Molecular Device SpectraMax M5 Multi-Mode Microplate Reader (for UV and visible absorbance, fluorescence and glow luminescence), a BioTek Eon Microplate Spectrophotometer (for growth curve measurements), a Tecan Spark Microplate Reader (absorbance with NanoQuant plate, fluorescence with polarization mode and luminescence with two injectors), an ARI Gryphon crystal robot, an Opentrons OT-2 robot, an Agilent 2100 Electrophoresis Bioanalyzer, an Agilent 4150 TapeStation System, a Miltenyl MACSQuant VYB bench top flow cell analyzer (with 3 lasers at 405nm, 488nm, 561nm and 10 optical channels), a ProteinSimple WES simple Western system, a Li-Cor Odyssey CLx Infrared Imaging System, a Sage Science Pippin HT DNA size selection system, a Savant SPD131DDA SpeedVac system, a FreeZone Plus 2.5 Liter Cascade Benchtop Freeze Dry System with PTFE-coated collector, a bench-top Microfluidics M-110PS Microfluidizer Processor (for rupturing cells), and a Nikon Eclipse Ti inverted fluorescent microscope with DIC and phase contrast microscopy, a Leica DMi8 inverted fluorescent microscope with motorized stage, phase contrast and DIC, capable of tiling and 3D deconvolution, a Illumina NextSeq550, a NextSeq2000 sequencing systems and an Oxford Nanopore GridION sequencing system. There are also back up freezers (one −20°C freezer and two −80°C freezers) and one CO2 incubators available for emergency use, regular delivery of dry ice and liquid Nitrogen, two GenPure xCAD UV/UF-TOC water systems and a centralized automatic dishwasher service, a 24-hour monitored cryogenic storage center, five autoclaves and a HP DesignJet Z9 large format poster printer. We are also in the process of acquiring more equipment to meet the needs of our growing department.

In addition to departmental equipment, labs in the RTI share equipment in an open-concept lab space. Our lab has access to a variety of equipment, including: high-performance liquid chromatography (HPLC; HP 1100 series, Agilent 1260 infinite series), preparative fast protein liquid chromatography (FPLC) systems (Bio-Rad Biologic LP system, ÄKTA purifier 100/10, ÄKTA Explorer, ÄKTA Explorer 10, ÄKTA pure 25M FPLCs), Agilent 6130 Quadrupole LC/MS, Agilent 6530 QTOF LC/MS, Flow Cytometer (BD Biosciences Accuri C6, EMD Millipore Guava easyCyte 8HT), ABI Expidite 8909 DNA/RNA synthesizers, MerMade8 DNA/RNA synthesizer, ABI Peptide synthesizer, GE AKTA Oligopilot100 Oligonucleotide synthesizer, GE AKTA OligoPilot100 mid-scale oligonucleotide synthesizer, Teledyne R 200 Combiflash purification system, Isolera Four automated sequential flash purification system with UV-VIS detector, Precision Nansystems NanoAssemblr Ignite, Illumina MiniSeq sequencing system, K100X Glow Discharge, Retsch Mixer Mills (PM100, MM301), Covaris E220 Evolution shearer, Precision freeze point μOSMETTE 5004 Osmometer, Edmund Optics WY1A Projection Abbe Refractormeter, Brookfield rotational type LVDV3T Rheometer, Electron oscillating OTS-5000 tissue slicer, Leica VT1000S vibrating blade Microtome, Qiagen TissueLyser II, Nexcelom Bioscience Cellometer Auto1000, MakerBot 3D Replicator desktop 3D printer and digitizer, Lonza 4D-Nucleofector X-Unit, and many Imaging systems (BioRad ChemiDoc MP imaging systems), centrifuges (Beckman Allegra X-15R, Beckman Avanti J-E, Sorvall Legend XTR, Sigma 1K15C ), NanoDrops (ND1000,2000C, OneC), Real-time PCR systems (Applied Biosystems, Bio-Rad), gel driers (Bio-Rad Model 583, Thermo SGD5040), Hybridization ovens (VWR, UVP HB-1000), biosafety cabinets (Thermo 1300 series A2, NuAire Class II Type A/B3), CO2 incubators (Thermo Napco 8000, Thermo Heracell 150i, Eppendorf New Brunswick Galaxy 170R), stereomicroscopes (Leica MS5, MZ6, MZFLIII with Spot RT3 CCD camera-Monochrome and color, Olympus SZX-16). There is also Andor Dragonfly High-Speed confocal microscope and a few other high-end microscopes to share (Inverted Nikon Eclipse TS100, upright Nikon Eclipse E600, Zeiss Axioplan 2 GFP scope, Zeiss compound microscope with Fluorescence and DIC).