Core Facilities

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Overview of Equipment

- ABI Core Units Equipment List (July 2025)

Animal Cell Culture

BSC: Biological Safety Cabinet

CBH: Clean Bench Hood

- 1.1- BSC, NuAire, Class II, type A2, NU-425-600 (ABI 237)
- 1.2- BSC, NuAire, Class II, NU-437-600 (ABI 246)
- 1.3- BSC, NuAire, Class II, type A2, N4-437-600 (ABI 251)
- 1.4- BSC, The Baker Company, SterilGARD® III Advance0, SG603, modified from Class III to Class II (ABI 256)
- 1.5- CBH, Labconco, model 3610004 (ABI 256)
- 1.6- BSC, Labconco, Class II, 3440809 (ABI 266)
- 1.7- BSC, Thermo Electron Corporation, Class II, Type A2, 1284 (ABI 346)
- 1.8- CBH, The Baker Company, EdgeGARD, EG-6320, 6 ft (ABI 346)
- 1.9- BSC, Labconco, Logic, model 3460009 (ABI 356)
- 1.10- CBH, Thermo, Heraguard ECO Clean (ABI 356)
- 1.11- CO2 incubator, Thermo Fisher Scientific, HERAcell Vios 160i (9 units: ABI 2x246, 2x251, 2x256, 1x346, 2x356)
- 1.12- CO2 incubator, VWR, Symphony, Cat # 98000-362 (ABI 266)
- 1.13- CO2 incubator, NuAire, NU-5510, single chamber (ABI 356)

- 1.14- Table-top centrifuge, Beckman, Avanti J-15R (4 units: ABI 246, 256, 346, 356)
- 1.15- Table-top centrifuge, Beckman, Allegra™ X-22R (ABI 251)
- 1.16- Table-top centrifuge, Thermo Scientific, CL2 (ABI 266)
- 1.17- Automated cell counter, Invitrogen, Countess™, C10281 (ABI 356)
- 1.18- Automated cell counter, Invitrogen (Life Tech) system, Countess™ II FL (3 units: ABI 251, 256, 356)
- 1.19- Inverted Microscope, Nikon, Eclipse TS 100 (ABI 246)
- 1.20- Inverted Microscope, Zeiss, Primo Vert w/Zeiss camera ERc 5s (ABI 251, 256, 356)
- 1.21- Inverted Microscope, Zeiss, Primo Vert 3841000390 (ABI 266)
- 1.22- Water bath incubator, FisherBrand, Isotemp GPD 20 (ABI 246)
- 1.23- Water bath incubator, Fisher Scientific, Isotemp 110, Cat # 15-460-10 (ABI 251)
- 1.24- Water bath incubator, Fisher Scientific, Isotemp SWB15 (ABI 251)
- 1.25- Water bath incubator, Fisher Scientific, Isotemp 110 (ABI 256)
- 1.26- Water bath incubator, Thermo Electron Corp., Precision, Series 280, model 2841 (ABI 266)
- 1.27- Water bath incubator, Thermo Electron Corp., Precision, Series 280 (ABI 246) 1.28. Water bath incubator, FisherBrand, Isotemp GPD 15D (ABI 356)
- 1.29- Refrigerator (mini) (+4 °C), General Electric, black (ABI 246)

- 1.30- Refrigerator/Freezer (+4 °C/-20 °C), Fisher Scientific, Isotemp,13-986-106A (ABI 251)
- 1.31- Refrigerator (mini) (+4 °C), Fisher Scientific, 05LREEFSA, white (ABI 251)
- 1.32- Refrigerator, chromatographic (+4 °C), Fisher Scientific, 13-986-138G (ABI 256)
- 1.33- Freezer (-20 °C), Thermo Scientific, 3767 A (ABI 256)
- 1.34- Refrigerator (+4 °C/-20 °C), FisherBrand, Isotemp, 13-9940291, model 18LCEEFSA (ABI 266)
- 1.35- Refrigerator (+4 °C/-20 °C), Fisher Scientific, 13-986-106A (ABI 356)
- 1.36- Refrigerator (+4 °C/-20 °C), FisherBrand, GT18LCEEF8A (ABI 356) ABI will provide gas CO2, annual certification for the cabinets and hoods, bleach, and ethanol.

Flow Cytometry

- 2.1- Flow cytometer/Cell sorter, BD Biosciences, FACSAria™
- 2.2- Computer workstation with BD FACSDiva™ software
- 2.3- Spare computer workstation with FCS Express™ 7 Professional software (De Novo Software)

This instrument is installed in ABI 244. ABI will provide sheath fluid, ethanol, bleach, calibration standards, plastic sample tubes, nozzles, O-rings, and groove chambers.

Histology

- 3.1- Cryostat, Epredia, HM525 NX



- 3.2-Automated rotary microtome, Leica, HistoCore AUTOCUT



- 3.3-Semi-enclosed benchtop tissue processor, Leica, TP1020

All instruments are installed in ABI 244.

Imaging

ABI will provide lens paper, ethanol, immersion oil, gas CO2, and liquid CO2.

- 4.1- Scanning Electron Microscope (SEM), sec SNE-4500M Plus (ABI 250)
  - Attachments:
    Critical Point Dryer, Autosamdri-815, Series A
    Energy Dispersive X-Ray Spectroscope, Bruker, SCU, Scan Generator (EDS, EDX, EDXS, XEDS)
    SOTER™ condenser
    Vacuum pump
    Air compressor
    Antivibration table
    Computer workstation w/NanoEye and ESPRIT Compact software
- 4.2- Bioimager, Agilent/BioTek, Cytation 5 (ABI 247)
  - Attachments:
    Controller for CO2/O2 gas
    Computer workstation with Gen5 software
    Spare computer workstation for data analyses
- 4.3- Upright microscope, Nikon, Eclipse E800 (ABI 247)
  - Attachments:
    Roper Scientifics Camera, Photometrics, CoolSnap HQ
    Computer workstation w/Nikon Elements software
- 4.4- Upright microscope, Leica, DMR-type:020-525.732 (ABI 250)
  - Attachment:
    Digital camera, Leica, model DFC340 FX
- 4.5- Upright microscope w/infrared detection (Smiths Detection), Olympus, Illuminat IR II FL (ABI 247)
  - Attachments:
    Smith's Detection adapter (Infrared), ILLUMINAT IR II FL, BX51TRF
    Color View Camera
- 4.6- Upright microscope, Nikon, Eclipse E400 (ABI 250)

- 4.7- Upright microscope, Zeiss, Axioskop (ABI 247)
- 4.8- Upright microscope, Fisher Scientific, Micromaster (ABI 250)
- 4.9- Inverted microscope, Zeiss, AXIO Vert.A1 (ABI 247)
    - Attachments:
      Fluorescence filters: DAPI, Hoescht Alexa Fluor 350 (375/460), EGFP, FITC, Cy2, Alexa Fluor 488 (480/535), TRITC, Cy3, TagRFP, Alexa Fluor 546 (540/605)
      Microscope camera, Zeiss, Axiocam 305 mono
      Computer workstation with Zeiss, ZEN software
- 4.10- Inverted microscope, Nikon, Eclipse TE2000u (T-DH) (ABI 247)
    - Attachments:
      Nikon Digital DS-Qi1Mc camera (DS cooled camera head)
      Nikon Digital DS-Fi2 color camera
      Led light source X-Cite 120 LED (Lumen Dynamics Group Inc., Model XT120L)
      Computer workstation w/Nikon Elements software
- 4.11- Inverted microscope, Zeiss, Axiovert 40C (ABI 250)
- 4.12- Inverted microscope, Amscope, IN300TC (ABI 250)
- 4.13- Dissection microscope, Zeiss, Stemi 2000-C (ABI 344)
    - Attachments:
      Digital camera, Zeiss, ERc 5s
      Cold light source, Zeiss, KL 1500 LCD (two flexible light guides)
- 4.14. Dissection microscope, Nikon, SMZ 1500 (P-BERG) (ABI 250)
    - Attachments:
      Color digital camera, Scion Corporation D100, model CFW-1312C
      Single arm boom stand (heavy base)
- 4.15. Dissection microscope, Leica, MZ6 (ABI 250)

Mass Spectroscopy

- 5.1- HPLC/Mass Spectrometer, Thermo/Dionex, Ultimate 3000/LTQ XL
    - Components:
        Pump, LPG-34000RS
        Autosampler, WPS-3000TRS
        Column oven, TCC-3000RS
        UV-visible detector, DAD-3000
        Mass Spectrometer, linear ion trap, LTQ-XL
        Nitrogen generator, Peak Scientific, NM 32LA

This system is installed in ABI 333. ABI will provide helium, a nitrogen generator, calibration standards, and a vacuum system.

Molecular Biology

- 6.1- Purifier Vertical Clean Bench, Fisher Scientific, FB-PCR2 (ABI 244)
- 6.2- Purifier Vertical Clean Bench Labconco, Cat # 3970301
- 6.3- DNA/RNA/protein quantifier, Thermo, NanoDrop One©
- 6.4- DNA/RNA/protein quantifier, Thermo Fisher Scientific, Nanodrop ND-8000
- 6.5- Thermal cycler, Applied Biosystems, Veriti 96 well
- 6.6- Real-time PCR system, Bio-Rad, CFX Opus 96 (96-well plates)
- 6.7- Real-time PCR system, Bio-Rad, C1000 + CFX96 (96-well plates)
- 6.8- Real-time PCR system, Bio-Rad, C1000 + CFX384 (384-well plates)
- 6.9- Automated liquid handler, Eppendorf, epMotion 5075 (ABI 354)
- 6.10- Automated electrophoresis system, Agilent, TapeStation 4150
- 6.11. Automated electrophoresis system, Agilent, BioAnalyzer 2100

Except for items 6.1 and 6.9, all instruments are installed in ABI 344.

Plant Cell and Tissue Culture

- 7.1- Clean bench hood, The Baker Company, EdgeGARD - EG-8252, 8 ft (ABI 344)
- 7.2- Clean bench hood, The Baker Company, EdgeGARD - EG-6252 (ABI 351)
- 7.3- Clean bench hood, The Baker Company, EdgeGARD - EG-63201 (ABI 351)
- 7.4- Clean bench hood, NuAire, Series 14 - NU-301-630 (ABI 366)
- 7.5- Clean bench hood, NuAire, Series 20 - NU-301-630 (ABI 366)
- 7.6- Cell transformation system assisted by helium (Biolistic® Particle Delivery System), Bio-Rad, PDS-1000/He (ABI 346)

ABI will provide helium and annual certification for the hood.

Radioactivity

- 8.1- Scintillation counter, Beckman Coulter, LS 6500
- 8.2- Geiger-Müller counter, Ludlum Measurements, Inc., Model 3
- 8.3- Table-top centrifuge, Beckman, Avanti J-15R
- 8.4- Hybridization oven, single chamber, Techne, FHB2DP

The Radioactivity Room is located at ABI 359. ABI will provide the annual recertification of the scintillation counter.

General Support

- 9.1- Ultracentrifuge, Beckman Coulter, Optima L-90K (ABI 338)
- 9.2- High-speed centrifuge, floor-type, Sorvall Evolution 208-60 LCD (ABI 238)
- 9.3- High-speed centrifuge, floor-type, Sorvall, RC 5C Plus (ABI 258)
- 9.4- High-speed centrifuge, floor-type, Sorvall, RC 5C Plus (ABI 338)
- 9.5- High-speed centrifuge, floor-type, Thermo, Lynx 6000, cat # 75006590 (ABI 358)
- 9.6- Microplate reader UV-vis spectrum, BioTek, Epoch (ABI 244, 344)
- 9.7- Image analyzer, Li-Cor, Odyssey Fc (ABI 331)
- 9.8- Automatic film developer, Konica Minolta, SRX-101A (ABI 331)
- 9.9- Microplate reader, UV-visible-luminescence-fluorescence, Agilent/BioTek, Synergy HTX. Fluorescence filters: 360/460, 485/528, and 560/600 nm (ABI 247)
- 9.10- Microanalytical scale, Mettler Toledo, XR6TUD5 (ABI 337)
- 9.11- Freeze dryer system (lyophilizer), Labconco, FreeZone 4.5L (-105 °C) (ABI 338)
- 9.12- Vacuum concentrator, Thermo/SpeedVac SPD 120 (ABI 333)
    - Attachments:

Refrigerated VaporTrap, Savant RVT5105

Vacuum pump

- 9.13. Vacuum concentrator, Thermo Electron Corporation SPD 131 DDA (ABI 338)
    - Attachments:

Universal Vacuum System Plus, Savant UVS800DDA

Liquid Nitrogen

10.- The outlet for liquid nitrogen is in the ABI loading area, next to the entrance to the Animal Facility, ABI A100.

Laboratories are responsible for dewars and cryotanks.

Small Animal Facility

- 11.1- Cage and rack washer, BeterBuilt®, R620L Series (A103)
- 11.2- Gravity steam sterilizer (autoclave), GETINGE, 522LS (A103)
- 11.3- Water purification system, ELGA, Purelab Classic, 18.2 mOhm.cm (A103)
- 11.4- Anesthesia machine, VETEQUIP, Impac6 (2 units in A110, A113)
- 11.5- Ventilated racks for cages, 40/80 (2 units in A114)
- 11.6- Ventilated racks for cages, 64/128 (3 units in A114)
- 11.7- Metal rack for animal cages, Lab Products, Inc. Supermouse 1800, Allerzone, 60/120 Cage (A117)

Greenhouses

- 12.1- Four greenhouses equipped with a computer-assisted system for controlling photoperiod, humidity, and temperature (ABI 411, 411B, 411C, 411D)
- 12.2- Cold room for seed storage (ABI 404)
- 12.3- Room for soil and plant transfer (ABI 409)
- 12.4- Autoclave for plant materials/soil, GETINGE, Model 733LS (ABI 411A)
- 12.5- Water purification system by reverse osmosis, Watts, HS-1000PT-SKH36MNA445AX (ABI 411A)

Plant Growth Chambers

- 13.1- Plant growth incubator, Conviron, PGC20, twin chambers, 2 levels (4 units)
- 13.2- Plant growth incubator, Conviron, E7/2, top/bottom chambers (1 unit)
- 13.3- Plant growth incubator, Conviron, ATC40, twin chambers, 2 levels (2 units)
- 13.4- Plant growth incubator, Conviron, ATC60, twin chambers, 3 levels (4 units)
- 13.5- Plant growth incubator, Conviron, TC80, twin chambers, 4 levels (1 unit)
- 13.6- Plant growth incubator, Conviron, Adaptis A1000 (1 unit)
- 13.7- Plant growth incubator, Percival, AR41L3 (2 units)
- 13.8- Walk-in plant growth chambers, Percival, DS-3678-CSN (2 units)

All equipment is installed in ABI 140. All plant growth chambers are connected to a computer-assisted system for controlling temperature, humidity, and photoperiod.

Infiltration Room

- 14.1- Plant growth incubator, Conviron, Adaptis A1000 (2 units in ABI 141A)

Other

- 15.1- Water purification system by reverse osmosis, USFilter, VROLC01BX (1 unit in ABI 138)
- 15.2- Water disinfection system, Ultraviolet, Aquafine® (2 units in ABI 138)
- 15.3- Autoclave, STERIS®, Amsco® Century™, SV-120 (3 units in ABI 142)
- 15.4- Laboratory glassware washer, STERIS®, Reliance® 500 (2 units in ABI 142)
- 15.5- Water purification system, ELGA, Purelab Classic, 18.2 mOhm.cm (8 units across the labs: ABI 234, 244, 253, 261, 335, 344, 353, 361)
- 15.6- Ice machines (3 units in ABI 142, 259, 358)
- 15.7- Backup refrigerators at +4 °C, chromatographic type (5 units in ABI 3x238, 258, 358)
- 15.8- Backup refrigerator at +4 °C, white (1 unit in ABI 238)
- 15.9- Backup freezers at -20 °C (3 units in ABI 2x258, 358)
- 15.10- Backup freezers at -80 °C (6 units in ABI 238, 2x258, 338, 2x358)