



Lancaster, PA Facility Instrumentation

Liquid Chromatography

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|--|-----|
| Agilent HPLC/UPLC | 145 |
| Waters HPLC/UPLC | 91 |
| HPLC Detectors | |
| Ultraviolet (UV) | 194 |
| Refractive Index (RI) | 17 |
| Fluorescence (FL) | 23 |
| Photodiode Array (PDA) | 60 |
| Multi-angle Light Scattering (MALS) | 2 |
| Electrochemical (ECD) | 2 |
| Evaporative Light Scattering (ELSD) | 3 |
| Corona Charged Aerosol Detectors (Plus, Ultra and VEO) | 14 |
| Dionex Ion Chromatographs (IC) | 5 |
| Fraction Collector | 2 |
| Pickering Pinnacle PCX Post Column Derivatizer | 2 |
| Thermo Nano LC | 1 |

Gas Chromatography

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|-----------------------|----|
| Agilent GC | 21 |
| Headspace Autosampler | 21 |

Mass Spectrometry

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|---|---|
| Thermo Fusion Lumos Orbitrap with LC or Nano-LC | 1 |
| Thermo LTQ Orbitrap XL with LC or Nano-LC | 2 |
| Waters Xevo G2XS QTOF with LC | 1 |
| Bruker Ultraflex extreme MALDI-TOF/TOF | 1 |
| Agilent TOF with LC | 4 |
| Sciex 4500 MS/MS with LC | 3 |
| Thermo TSQ Vantage MS/MS with LC | 6 |
| Agilent QTOF with LC | 2 |
| Agilent MS with GC | 5 |

Capillary Electrophoresis

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|---|----|
| Beckman Coulter PA 800 PLUS (3 PDA/UV/LIF, 6 PDA/UV, 4 PDA) | 13 |
| Protein Simple iCE3 (4 PrinCE, 3 Alcott Autosamplers) | 7 |

Elemental Analysis

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|---|---|
| Agilent 7700/7900 ICP/MS | 4 |
| Thermo Scientific iCAP 6500 ICP/OES | 2 |
| Perkin Elmer Optima 5300 Inductively Coupled Plasma (ICP-OES) Spectrophotometer | 1 |
| Perkin Elmer Atomic Absorption Spectrometer | 2 |
| Perkin Elmer CHN Analyzer | 1 |
| Milestone Ultrawave Microwave Digestors | 3 |

Spectrophotometry

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|---|---|
| Bruker D8 ADVANCE XRD | 1 |
| Agilent 8453/8454 UV/VIS Spectrophotometers | 8 |
| Jasco J-815 Spectropolarimeter (Circular Dichroism) | 1 |
| Nicolet 6700 FTIR | 1 |
| C-Technologies SoloVPE (UV/VIS) | 2 |
| Shimadzu UV-2700 | 1 |
| Bruker ALPHA-A250D FTIR | 1 |
| MTEC PAC 300 Photoacoustic Detector | 1 |



Cell Banking

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|---|---|
| Grade A/B cGMP Compliant Clean Room Suites | 2 |
| ISO 5/7 cGMP Compliant Clean Room Suite | 2 |
| BSL2 Fully Equipped Tissue Culture Laboratory | 1 |
| Quarantine BSL2 Tissue Culture Laboratory | 1 |
| LN2 Cryogenic Freezers for short-term storage | 3 |
| Controlled Rate Freezers | 2 |

Virology

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|---|---|
| BSL2 Fully Equipped Tissue Culture and Viral Laboratories | |
| Viral Clearance Client Suites | 6 |
| GE AKTA Avant Chromatography Systems | 2 |
| GE AKTA Pure Chromatography Systems | 2 |
| GE AKTA Explorer 100 Chromatography Systems | 6 |

Molecular and Cell Biology

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| BSL2 Fully Equipped Tissue Culture and Viral Laboratories | |
| Applied Biosystems 7500 qPCR Systems | 7 |
| Applied Biosystems 7500Fast qPCR System with AccuSEQ Software | 1 |
| Applied Biosystems Via 7 qPCR System | 1 |
| Applied Biosystems 3500 Genetic Analysis System | 2 |
| Applied Biosystems MagMax Nucleic Acid Isolation Systems | 2 |
| Applied Biosystems AutoMate Nucleic Acid Isolation System | 1 |
| Beckman Coulter Genetic Analysis system | 1 |
| Thermo Fisher iBInd Flex Automated Western Blot Systems | 2 |
| ThermoFisher Nanodrop 1000 | 1 |
| Mettler-Toledo UV5 Nano Small Volume Spectrophotometer | 1 |
| Molecular Devices M2, M5e, i3x, Paradigm, and Luminescent Plate Readers | 14 |
| Perkin Elmer Envision Multi-Label Plate Reader | 1 |
| Beckman Coulter Vi Cell Automated Cell Counter | 4 |
| Ultrafreezers | 7 |
| LN2 Cryofreezers | 6 |
| Bio Rad Molecular Imaging System with Quantity One software | 1 |
| Qiacube Nucleic Acid Isolation System | 1 |
| Promega MaxWell Nucleic Acid Isolation System | 1 |
| BioRad Pulse Field Electrophoresis System | 1 |
| Biotek Precision Liquid Handling System | 1 |
| Atlas CPS Light Box for UV Degradation | 1 |
| Beckman Coulter CytoFLEX S Flow Cytometer | 1 |

Stability

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| Stability Chambers (80,000 ft ³) | 80 |
| LN2, -80°C up to 40°C/75% RH & Custom Chamber Conditions along with WHO Zone IV 30°C/75°C | |
| Large capacity, ultra-low temperature (-70°C) walk-in (equivalent to 36 reach-in chambers) | |
| More than 25 different set points, including all ICH conditions | |
| We also offer chambers that can be set to custom condition upon request | |



Stability (cont.)

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| Cycling Chambers | 2 |
| Photostability Chambers with ICH Specifications for Option 2 | 2 |
| LN2 Cryogenic Freezers for short- and long-term storage | 6 |

Dissolution

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| Dissolution Baths (Apparatus 1, 2 and 5) (Distek/Agilent/Varian/Vankel/Hanson) | 48 |
| Agilent/Varian Automatic Sampler Systems | 25 |

Microbiology

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| Microbiology laboratories with controlled access, equipped with HEPA filtration and BSL2 capabilities | |
| la Calhene soft wall isolator system with three half suit workstations, three-glove transfer isolators and two-glove transfer isolators | |
| EMD Millipore Integral Steritest™ systems for membrane filtration | 5 |
| Steris VHP® 1000 systems for decontamination | 3 |
| Sequence Based Microbial Identification System | 2 |
| HIAC/Royco particle counters | 2 |
| Endoscan-V systems with Biotek Microplate Readers for performing kinetic turbidimetric/chromogenic endotoxin tests | 3 |
| Aqualab water activity meter | 2 |
| Celsis Rapid Detection System for Sterility Applications | 1 |
| Bruker MALDI-TOF for Organism Identification | 1 |
| Millipore Equinox Systems | 3 |
| Millipore Symbio Systems | 2 |
| Filamatic Filling and Capping Station | 1 |

Miscellaneous

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|---|---|
| Volumetric Karl Fischer (KF) System | 5 |
| Coulometric KF System | 4 |
| Coulometric KF Systems with oven | 4 |
| Protein Simple MFI (Micro Flow Imaging) 5100 | 1 |
| Protein Simple MFI (Micro Flow Imaging) 5200 | 1 |
| Thin Layer Chromatography (TLC) Sampler | 2 |
| Polarimeter | 2 |
| Refractometer | 1 |
| Rotational Viscometer | 5 |
| GE Analytical/Sievers 900/800 Total Organic Carbon Analyzer (TOC) | 4 |
| Differential Scanning Calorimeter (DSC) | 1 |
| Thermo Gravimetric Analyzer (TGA) | 1 |
| Malvern Particle Sizers | 3 |
| TA Modulated Differential Scanning Calorimeter 2500 | 1 |
| TA Nano Differential Scanning Calorimeter | 1 |
| Westcor Vapor Pressure Osmometer | 1 |
| Advanced Instruments Freezing Point Osmometer | 1 |
| Binding Site Digital Radial Immunodiffusion (RID) Plate Reader | 1 |
| Sartorius Stedim Fill-it System for High through put Aliquoting | 1 |

Metrology

16 full-time metrologists with extensive in-house preventive maintenance and parts inventory



Lancaster Laboratories

Global Services:

Chemistry/Biochemistry
Cell Banking Services
Facility & Process Validation
Method Development & Validation
Microbiology
Molecular & Cell Biology

Raw Materials Testing
Release Testing
Residuals & Impurities Testing
Stability Testing & Storage
Viral Clearance & Viral Safety
Professional Scientific Services®

Facilities:

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