Genomics
Illumina Platform
NGS services
HiSeq 2500
NextSeq 500

Standard Applications:
• RNA-seq
• Whole genome sequencing
• Whole exome sequencing
• ChIP-seq
• Methylation sequencing metagenomics

Custom Sequencing Services:
• NGS projects on low-quality DNA/RNA
• Amplicon sequencing
• Genotyping by sequencing
  and more...

Bioinformatics Services
Access to high performance computing clusters for data analysis including:
• RNA-seq
• ChIP-seq
• Whole genome sequencing
• Whole exome sequencing
• Methylation sequencing
• Metagenomics
• Gene functional annotation
  and more...

NMR
Bruker Avance I
500 MHz NMR
• 1D spectra for 1H, 13C, 19F, and 31P
• 2D spectra including COSY, HMBC, and HSQC

Genetic and Genomic Service
• DNA/RNA extraction
• DNA/RNA quantification
• DNA/RNA fragmentation
• ChIP
• PCR
• qPCR

Imaging

Instruments:
• Quantum GX mircoCT: Whole body imaging (45 mm resolution) and high-resolution spot scans (5 mm resolution reconstruction)
• IVIS Spectrum CT: Pair fluorescent or bioluminescent imaging with microCT in up to 5 live animals simultaneously
• XRAD 320 Irradiator: Suitable for x-ray irradiation of cells and small animals
• Vevo 2100 Ultrasound
Biomedical Engineering and Design

Facility Capabilities
- Manual and CNC 3-Axis Milling
- Engine Lathe
- Vibratory Deburring
- Steel Heat Treating
- Plasma Cutting
- Welding/Brazing (TIG, MIG, Arc)
- CAD (2D/3D)
  - New designs and
- 3D printing
  - Stereolithography (resins including high temperature and ceramic)
  - Fused Deposition (nylon, PETG, ABS, and more)

Customized research hardware
- Modify existing hardware
- Design new tools
- Instrument repair and replacement parts
- CAD and 3D printing

Circadian Rhythm chambers
- Chemical resistant, sound attenuated, light baffled design with lightproof door gaskets
- Fully IACUC compliant lighting and carbon filtered ventilation
- EMI insulated
- 2 light circuits + battery backup with full spectrum daytime LEDs and nighttime 660 nm red LEDs
- Castor wheels for easy transport

Replacement parts custom milled out of UHMW-PE

Custom aeration chamber for brain slices

3D printed computer enclosure prototype for novel instrumentation
Mass Spectroscopy

Mass spectrometry is a powerful analytical technique for accurately measuring the mass of molecules, identifying unknown compounds within a sample, quantifying known materials, and for elucidating the structure and chemical properties of different molecules.

AB Sciex QTRAP 6500
Self-service or Full-service
Coupled to the Shimadzu UHPLC system

Flow Cytometry

Beckman Coulter Gallios
- 2 lasers (488 and 638 nm)
- 6 fluorescence parameters
- Kaluza analysis software

Sony MA900 Cell Sorter
- 4 lasers (405, 488, 561, and 638 nm)
- 2 beam spots
- 12 fluorescence parameters
- 3 nozzles sizes (70, 100, and 130 μm)
- Sort devices include tubes and 6- to 384-well plates

Xevo® G2-S QTof
Full-service only
**Histology**

Customizable histology, from processing to sample layout and staining, focused on research quality slides.

- Traditional stains, protocol development, and IHC available

**Microscopy**

- **Leica SPE Confocal**: 4 lasers with fluorescent and transmitted light PMTs, equipped with a DFC9000 camera and live cell imaging chamber
- **Zeiss M2 Epifluorescent Microscope**
- **Zeiss Z1 Inverted Epifluorescent Microscope**: Equipped with monochrome and color cameras and live cell imaging chamber
- **Olympus IX-81 Confocal**: multi-area time lapse, spectral scanning, FRET/FLIP/FRAP, 3D/4D reconstruction, and 3D mosaic imaging

**Lab Services**

- Common equipment
- Lab safety
- Hazardous materials shipping
- Training
- Experimental design
- Bench technique
- Assisted Imaging
- Troubleshooting
- Instrument Repair

We gratefully acknowledge the support of **Health Sciences and Services Authority of Spokane County** (HSSA)

Additional information and rates for all Spokane Services and Instruments on our website

Contact us at: spok.labservices@wsu.edu