مختبر البحث المركزي

**Central Research Laboratory**

**(CRL)**

|  |
| --- |
| Test Type |
|
| **Detection and Measurement of Biomarkers by Enzyme-linked Immunosorbent Assay (ELISA).** |
| **Detection and Measurement of Biomarkers by Bio-Rad (Bio-Plex 200 system). The price per kit** |
| **Detection and Measurement of Biomarkers by Semi-Automated Biochemistry Analyzer by SFRI (BSA 3000)** |
| **Detection and Measurement of Biomarkers by Roche (Reflotron Plus)** |
| **Absorbance Microplate Reader (from 400-700 nm) by Tecan (Sunrise)** |
| **Characterization of Nanoparticles- Size by Malvern (Zetasizer ultra)** |
| **Characterization of Nanoparticles -Zeta Potential by Malvern (Zetasizer ultra)** |

|  |
| --- |
| Test Type |
|
| **Protein Extraction by PBS or RIPA(0.2 g), (Tissue Lyzer LT;Model No.:E97600267 by Qiagen)** |
| **Protein Extraction by Trizol** |
| **Protein Concentration Measurement by Nanodrop, (Nanodrop 2000 spectrophotometer by Thermo Scientific)** |
| **Protein Quantitation (Lowry Assay), (Cary Series UV/VIS/NIR Spectrophotometer (Model No.: Cary 6000i by Agilent Technologies)** |
| **Protein Quantitation (Bradford Assay), (Cary Series UV/VIS/NIR Spectrophotometer (Model No.: Cary 6000i by Agilent Technologies)** |
| **Protein Separation by Polyacrylamide Gel Electrophoresis (PAGE): (SDS - Native PAGE - Other), (Mini-Protean Tetra Cell by Bio-Rad), (GS-900 Calibrated Densitometer (Model No.: GS-900 by Bio-Rad)** |

|  |
| --- |
| Test Type |
|
| **Gel Imaging System (GS-900 Calibrated Densitometer (Model No.: GS-900 by Bio-Rad)** |
| **Western Blot (Trans-Blot Turbo Transfer System by Bio-Rad), ChemiDoc MP Imaging System (Model No.: Universal Hood III, by Bio-Rad)** |
| **Western Blot (Trans-Blot Turbo Transfer System by Bio-Rad), ChemiDoc MP Imaging System (Model No.: Universal Hood III, by Bio-Rad)** |
| **Western Blot Reused Membrane, (ChemiDoc MP Imaging System (Model No.: Universal Hood III, by Bio-Rad)** |
| **Silver Stain Kits for Protein** |
| **Ultra Pressure Liquid Chromatography UPLC/MS/MS/Q-TOF, (Xevo-TQD by Waters) - (Xevo G2-s QTOF by Waters)** |
| **High Pressure Liquid Chromatography (HPLC), (Infinity 1290 by Agilent Technologies)** |
| **Spectrophotometer (F-UV-UV-vis-IR), (Cary Series UV/VIS/NIR Spectrophotometer (Model No.: Cary 6000i and Cary Eclipse by Agilent Technologies)** |

|  |
| --- |
| Test Type |
|
| **Thermo Gravimetric Analyzer,PYRIS 1 TGA,Perkin Elmer**  **( TGA)** |
| **Separate and determine component by Ultra- Performance Liquid Chromatography,XEVO-TQD,Waters** **(UPLC/MS/MS)** |
| **separate and determine component by High Pressure Liquid Chromatography, series200, Perkin Elmer**  **(HPLC)** |

|  |
| --- |
| Test Type |
|
| **Separate and determine component by Gas Chromatography, Clarus500, Perkin Elmer**  **(GC-FID)** |
| **Separate component by Gas Chromatograph-Mass Spectrometer,7890B Agilent Technologies** **(GC- MS)** |
| **Separate and determine component by Liquid Chromatograph-Mass Spectrometer,6460 Triple Quad LC/MS,Agilent Technologies (LC-MS- MS)** |

|  |
| --- |
| Test Type |
|
| **Total organic carbon,MULTI N/C 3100/1,Analytik Jena** |
| **determination of elements by Atomic Absorption Spectrophotometry,240FS,Agilent Technologies (one element for one sample)** |
| **Digestion Microwave,ETHOS One,Milestone (10 sample per run)** |
| **Spectrophotometer (Fluorescence,G9800A,Agilent Technologies ,UV-Vis,Lambda25,Perkin Elmer , UV-Vis-NIR,Lambda750,Perkin Elmer , FT-IR,Spectrum 100,Perkin Elmer** |
| **Resonance Spectroscopy,600Mhz,Agilent Technologies (NMR) 1D- NMR** |
| **2D-NMR** |

|  |
| --- |
| Test Type |
|
| **Examination Surfaces of non-biological samples Without Chemical Treatment  JEOL 6060 LV SEM** |
| **Examination Surfaces of biological samples With Chemical Treatment  JEOL 6060 LV SEM** |
| **Examination Surfaces of non-biological samples Without Chemical Treatment JSM-JEOL7610F** |
| **Examination Surfaces of biological samples With Chemical Treatment  JSM-JEOL7610F** |
| **Examination Surfaces of non-biological samples EDX** |
| **Imaging Only JSM-JEOL7610F** |
| **Imaging Only JEOL 6060 LV SEM** |

|  |
| --- |
| Test Type |
|
| **Chemical Treatment Only of biological specimen** |
| **Chemical Treatment, Sectioning, staining and imaging of biological specimen** |
| **Sectioning and staining of biological specimen** |
| **Negative Staining and Imaging** |
| **Loading for Negative Staining Sample** |
| **Sample Preparation of Non- biological specimen and Imaging** |
| **Loading only of non-biological specimen** |
| **Imbedding, cutting and imaging for polymer sample** |
| **Imaging Only** |

|  |
| --- |
| Test Type |
|
| **Minimum inhibitory concentration (MIC)** |
| **Minimum bactericidal concentration (MBC)** |
| **Dilution preparation of reagents** |
| **Disc diffusion method for antibiotic susceptibility testing-antibiotics from the department** |
| **Disc diffusion method for antibiotic susceptibility testing-Antibiotic or chemical provided by researcher** |
| **Microscopy olympus cx31rbsf, SN 9E00810 , SN 9D05452 (Gram Staining)** |
| **Automated Microbiology Identification System By(BD phoenix system) SN px2259** |
| **PCR - Applid Biosystems96 well Thermal Cycler from the sample  ( Glycerol , Pick , Colony and grow)** |
| **Agarose Gel Electrophoresis BIORAD** |

|  |
| --- |
| Test Type |
|
| **PCR purification or gel extraction kit** |
| **Total Microbial DNA extraction** |
| **Total Microbial DNA extraction from glycerol and agar plate** |
| **Purity DNA using Thermo Nano Drop 2000** |
| **Spectrophotometry measurement Amersham biosciences 97107 SN 80-2112-28** |
| **Growth curve** |
| **Biofilm** |
| **SEM processing before imaging** |

|  |
| --- |
| Test Type |
|
| **Subculture on a plate agar or broth** |
| **MIC + MBC(Packages)** |
| **MIC determination (Manually), Disc diffusion method with antibiotic from the department Automated Microbiology Identification System "Phoenix 100".** |
| **MIC determination (Manually), Disc diffusion method with an extract from the researcher Automated Microbiology Identification System "Phoenix 100".** |

|  |
| --- |
| Test Type |
|
| **Ultracentrifuge**  **Beckman coulter optima xe 100 (NVT65)** |
| **Ultracentrifuge**  **Beckman coulter optima xe 100 (SW 55Ti )** |
| **Ultracentrifuge**  **Beckman coulter optima xe 100 (SW 40 Ti)** |
| **Ultracentrifuge**  **Beckman coulter optima xe 100 (100 Ti)** |
| **Ultracentrifuge**  **Beckman coulter optima xe 100 (70 Ti)** |
| **Ultracentrifuge**  **Beckman coulter optima xe 100 (type 19)** |
| **Monthly** |
| **year** |

|  |
| --- |
| Test Type |
|
| **Processing of Tissue Specimen (Automated Tissue Processor, Lieca-TP1020)** |
| **Paraffin Embedding (Tissue embedding station, Lieca-EG1160)** |
| **Paraffin sectioning (Rotary Microtome, Lieca-RM2255)** |
| **Staining, mounting and Coverslipping (Automated Multi-stainer, Lieca-AUTOSTAINER XL; Automated Cover Slipper, Lieca-CV5030)** |
| **Histological service package** **including processing, paraffin embedding, sectioning, staining, mounting and coverslipping**  **(Automated Tissue Processor, Lieca-TP1020; Tissue embedding station, Lieca-EG1160; Rotary Microtome, Lieca-RM2255; Automated Multi-stainer, Lieca-AUTOSTAINER XL; Automated Cover Slipper, Lieca-CV5030)** |

|  |
| --- |
| Test Type |
|
| **Light Microscope Imaging  5 images/Staind sample (Lieca-DM4000 B LED/With digital camera)** |
| **Florescent Microscope Imaging 5 images/Staind sample (Lieca-DM3000 B LED/With digital camera)** |
| **Histological service package for Immunohistochemistry including processing, paraffin embedding, sectioning, and loading on frost slide(Automated Tissue Processor, Lieca-TP1020; Tissue embedding station Lieca-EG1160; Rotary Microtome Lieca-RM2255)** |
| **Automated Immunohistochemistry Staining (Dako Auto-stainer AL204)** |
| **Laser Capture Microscopy (Life technology, Arcturust XT)** |
| **Cryosectioning including sectioning, staining, mounting and coverslipping,(Cryostat, Leica CM1850UV-7-1)** **Automated Multi-stainer, Lieca-AUTOSTAINER XL; Automated Cover Slipper, Lieca-CV5030)** |

|  |
| --- |
| Test Type |
|
| **Multiplex Assay by Luminex MiliQ** |
| **Cytotoxicity Assay (CellTiter 96 Aqueous One Solution Cell Proliferation Assay, Promega)** |
| **Florescent Microscope Imaging (Lieca-DMI3000, with digital camera)** |
| **Light Microscope Imaging (Lieca-DMI3000, with digital camera)** |
| **Cell Line Passage** |
| **Customized Cell Treatment** |
| **Isolation and Subculturing of primary cells from fresh tissue** |
| **Tissue Homogenization** **Provied the Tissue in Phosphate Buffer Saline** |
| **Cell Counting for Trypan Blue Stained cells (Invitrogen COUNTESS)** |

|  |
| --- |
| Test Type |
|
| **UV/VIS spectrophotometric assays**  **(SpectraMax Plus 384 Microplate Reader, Molecular Devices)** **• DNA quantitation** **• Colorimetric assays** **• ELISAs/EIAs** **• Immunoassays** **• Drug dissolution profiles** **• Enzyme kinetics** **Filter range (190–1000 nm )** |
| **UV/VIS spectrophotometric assays**  **(SpectraMax Plus 384 Microplate Reader, Molecular Devices)** **Filter range (190–1000 nm ) , overnight incubation** |

|  |
| --- |
| Test Type |
|
| **Live Cell Imaging  24hrs/ Stained Sample** |
| **Supervised Confocal Imaging 1hr/ Stained Smalpes (Laser Scanning Microscope (CLSM) Ziese** |
| **Unsupervised Confocal Imaging  1hr/ Stained Smalpes  (Laser Scanning Microscope (CLSM) Ziese** |

|  |
| --- |
| Test Type |
|
| **DNA Extraction** **(Extraction from blood/tissues/saliva)** |
| **RNA Extraction**  **(Extraction from blood/tissues/saliva)** |
| **DNA/RNA measurement  by Nanodrop 2000 spectrophotometer by Thermo Scientific** |
| **Reverse Transcriptase PCR** |
| **Polymerase Chain Reaction (PCR)  by Veriti 96 well Thermal Cycler by Applied Biosystems** |
| **Agarose Gel Electrophoresis (Per one Gel) by PS 300 T Mini power pack by Biometra An Analytik Jena Company/ Gel Doc XR+ by BioRad/BioDoc Analyze Biometra** |

|  |
| --- |
| Test Type |
|
| **Real Time PCR**  **(Genotyping)**  **by Viia 7 by life technologies/ Applied Biosystems.** |
| **Real Time PCR** **(Gene Expression)**  **by Viia 7 by life technologies /Applied Biosystems.** |
| **DNA Sequencing by 3500 Genetic Analyzer by Applied Biosystem** |
| **Real Time PCR instrument**  **by Viia 7 by life technologies/ Applied Biosystems** |
| **Thermocycler (PCR)**  **by Veriti 96 well Thermal Cycler/ Applied Biosystems** |
| **Gel Documentation system with CCD camera using Gel Doc XR+ by BioRad/ BioDoc Analyze Biometr** |

|  |
| --- |
| Work space Rental |
| **This service aimed to provide a workspace for the researcher/postgraduate student in the specialized laboratory to work alone through daily/weekly/monthly rent.** **The service price includes: a workspace, consumables, cabinet, and 5 supporting devices** |

|  |
| --- |
| Renting A Lab Bench |
|
| **Daily** |
| **Weekly (Sunday-Thursday)** |
| **Monthly** |

|  |
| --- |
| **Pipette Plastic/Piece** |
| **Sterile Tips** |
| **Under pad sheet / Piece** |
| **Parafilm/ 1 meter** |
| **Weigh Boats/Piece** |

|  |
| --- |
| **Co2 incubator** |
| **Microcentrifuge Refrigerated\*\*** |
| **Centrifuge \*\*** |
| **Autoclave** |
| **Shaking Incubator** |
| **Incubator** |
| **Ice Maker** |
| **Sonicator** |
| **PH meter** |
| **Spectrophotometry** |
| **Dryng Oven** |
| **Electronic Balance** |
| **Thermomixer** |
| **Stirrer/ Hot plate** |
| **Water Bath** |
| **Vortex** |
| **Speed Vac System** |
| **Power Sonic 405** |

|  |
| --- |
| * **\*\* Researcher must provide the tube** |
| * **These services are only available for experienced researchers** |
| * **Additional training fees are applicable if required prior to rental of the workspace** |