مختبر البحث المركزي

**Central Research Laboratory**

**(CRL)**

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| 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)** |

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| Test Type |
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| **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)** |

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| Test Type |
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| **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)** |

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| Test Type |
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| **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)** |

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| Test Type |
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| **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)** |

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| Test Type |
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| **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** |

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| Test Type |
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| **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 TreatmentJSM-JEOL7610F**  |
| **Examination Surfaces of biological samples With Chemical Treatment JSM-JEOL7610F**  |
| **Examination Surfaces of non-biological samplesEDX**  |
| **Imaging Only JSM-JEOL7610F** |
| **Imaging Only JEOL 6060 LV SEM** |

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| Test Type |
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| **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**  |

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| Test Type |
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| **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** |

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| Test Type |
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| **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** |

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| Test Type |
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| **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 researcherAutomated Microbiology Identification System "Phoenix 100".** |

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| Test Type |
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| **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** |

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| Test Type |
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| **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)** |

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| Test Type |
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| **Light Microscope Imaging 5 images/Staind sample(Lieca-DM4000 B LED/With digital camera)** |
| **Florescent Microscope Imaging5 images/Staind sample(Lieca-DM3000 B LED/With digital camera)** |
| **Histological service package for Immunohistochemistryincluding 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)** |

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| Test Type |
|
| **Multiplex Assay by LuminexMiliQ**  |
| **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)** |

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| Test Type |
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| **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** |

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| Test Type |
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| **Live Cell Imaging 24hrs/ Stained Sample** |
| **Supervised Confocal Imaging1hr/ Stained Smalpes(Laser Scanning Microscope (CLSM) Ziese**  |
| **Unsupervised Confocal Imaging 1hr/ Stained Smalpes (Laser Scanning Microscope (CLSM) Ziese**  |

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| 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** |

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| Test Type |
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| **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 Sequencingby 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** |

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| 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** |

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

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

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| **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** |

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