

**جامعة الملك سعود**

**كلية العلوم**

**المختبر المركزي**

**Life sciences unit services**

Central Laboratory, College of Science, King Saud University

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| **S. No** | **Type of Analysis** | **Instruments** | **Last user** | **Number of lab.** |
| 1 | Scanning, Screening, interpretation and photography of Biological and Nano sample | Transmission Electron Microscopy (TEM) | Dr. Mukhtar Ahmed | AB 93 |
| Shaban Roshdy |
| 2 | Samples cutting both semi-thin and Ultracut | Ultra-microtome | Dr. Mukhtar Ahmed | AB 87/1 |
| Shaban Roshdy |
| 3 | Samples orientation and trimming | TEM Tissue Trimer | Dr. Mukhtar Ahmed | AB 87/1 |
| Shaban Roshdy |
| 4 | Making glass knives for both semi-thin and Ultracut | Glass knife maker | Dr. Mukhtar Ahmed | AB 87/1 |
| Shaban Roshdy |
| 5 | High speed dispersion for Nano samples | [Probe sonication‬‏](https://www.google.com.sa/search?q=probe+sonication&site=webhp&tbm=isch&tbo=u&source=univ&sa=X&ved=0CC4QsARqFQoTCMGE1svXv8gCFQWBcgodUXUBSw) | Dr. Mukhtar Ahmed | AB 87/5 |
| Shaban Roshdy |
| 6 | Processed the samples before molding in capsules | TEM Tissue Processing | Dr. Mukhtar Ahmed | AB 98 |
| Shaban Roshdy |
| 7 | Staining for Ultracut sections before screening by TEM | TEM Strainer | Dr. Mukhtar Ahmed | AB 98 |
| Shaban Roshdy |
| 8 | Cutting ultra-sections for TEM  (70 -80 nano meter) | Diamond Knife | Dr. Mukhtar Ahmed | AB 87/1 |
| 9 | Produces images of a sample by scanning it with a focused beam of electrons. | Scanning Electron  Microscopy (SEM) | Dr. Omar AbdElkader | AB 87/4 |
| 10 | Covering samples with Au and Pt To get good quality images. | Gold, Carbon and  platinum Spattering | Dr. Omar AbdElkader | AB 87/4 |
| 11 | Analysis of fluorescent labelled samples of mammalian and bacterial cells | Confocal Spinning  Disk Microscope | Dr. Salim Manoharadas | AA 63 |
| 12 | Determine concentration of DNA, RNA and Proteins based on absorbance at 260/280 nm | Nano Drop | Dr. Salim Manoharadas | AA 63 |
| 13 | Amplifing a single copy or few copies of a piece of DNA. | PCR | Dr. Shaik Althaf Hussain | AA 60 |
| 14 | Detection of [biological](https://en.wikipedia.org/wiki/Biology) or [physical](https://en.wikipedia.org/wiki/Physics) events of samples in [microtiter plates](https://en.wikipedia.org/wiki/Microtiter_plate). | ELISA Reader | Dr. Shaik Althaf Hussain | AA 60 |
| 15 | Provide Liquid Nitrogen | Liquid Nitrogen Generator | Dr. Shaik Althaf Hussain | AA 60 |
| 16 | Centrifuge with Maximum rotating speed: 50,000 rpm (254,345xg). | Ultra-centrifuge | Dr. Shaik Althaf Hussain | AA 60 |
| 17 | Preservation of samples at -80 C | Freezer -80 C | Dr. Shaik Althaf Hussain | AA 60 |
| 18 | Sterilize the laboratory glassware, microbial media, surgical instruments and [medical waste](https://en.wikipedia.org/wiki/Medical_waste). | Autoclave | Dr. Shaik Althaf Hussain | AA 60 |
| 19 | Provide ice cubes | Ice Maker | Dr. Shaik Althaf Hussain | AA 60 |
| 20 | Analyses blood cell parameters like WBC count, RBC count and Platelet Count. | Blood Cell Counter | Dr. Shaik Althaf Hussain | AA 60 |
| 21 | Measurement of different chemicals and other characteristics in a number of biological [samples](https://en.wikipedia.org/wiki/Sample_(material)). | Chemistry Analyzer  BS 200 | Dr. Javid Dar | AA 60 |
| 22 | Analyses immunoassays, complex genetic analysis, and enzymatic assays | Luminex | Dr. Javid Dar | AA 60 |
| 23 | Quantitatively measure the amplification of DNA using fluorescent probes. | Real Time PCR | Dr. Javid Dar | AA 60 |
| 24 | Fluorescent western blotting, chemiluminescence detection, and general gel documentation applications. | Gel Doc/Western blotting appartus | Dr. Javid Dar | AA 60 |
| 25 | Centrifuge for small tubes (0.2 ml - 2.0 ml) with up to 12000 Rpm | Microcentrifuge | Dr. Javid Dar | AA 63 |
| 26 | Resolve separate components of a protein mixture based on their size. | PAGE System | Dr. Javid Dar | AA 60 |
| 27 | For Cell lines and Tissue cultures experiments | Tissue culture cabinate and CO2 incubator | Dr. Shaik Althaf Hussain | AA 63 |
| 28 | Measuring the pH for solutions | pH meter | Dr. Javid Dar | AA 63 |
| 29 | Centrifuging around 5000 rpm at cooling temperature | Cooling Centrifuge (Thermo Sci.) | Dr. Javid Dar | AA 63 |
| 30 | Electrophoresis of nucleic acids and proteins | Automated Electrophoresis System | Dr. Salim Manoharadas | AA60 |
| 31 | Maintain optimal temperature for critical enzyme reactions | Water Bath | Dr. Salim Manoharadas | AA 63 |
| 32 | Long time storage of bacterial/mammalian cells as glycerol stock | Big Freezer -80 C | Dr. Salim Manoharadas | AA 63 |
| 33 | Generation of solid carbon dioxide | Dry Ice Maker | Dr. Salim Manoharadas | AA 63 |