



جامعة الكويت  
KUWAIT UNIVERSITY

## Research Sector General Facilities & Specialized Research Units & Laboratories Medicine

اسم الجهة Institute/Department	اسم الجهاز Equipment name	الجهة المصنعة Manufacturer	وصف موجز للجهاز Equipment Description	الجهة المصنعة Equipment Photo	استخدامات الجهاز uses of equipment	
SRUL02/13	Medicine	7500 Fast Real Time PCR	ABI	Fast 96- well format thermal cycling block. It supports various applications including quantitative and qualitative analysis, gene expression, allelic discrimination (SNP genotyping), and plus/minus assays.		"Absolute Quantitation Relative Quantitation SNP Genotyping Plus/Minus assay"
GM01/15	Medicine	Quantstudio 7 Flex Real Time PCR	ABI	Interchangeable 96-well (0.1 and 0.2 mL), 384-well and TaqMan Array card blocks. It supports various applications including quantitative and qualitative analysis, gene expression, allelic discrimination (SNP genotyping), and plus/minus assays. Intuitive software and easy touch-screen setup.		"Absolute Quantitation Relative Quantitation SNP Genotyping Plus/Minus assay"
SRUL02/13	Medicine	7900 HT Fast Real Time PCR	ABI	Fast 96/384- well format thermal cycling block. It supports various applications including quantitative and qualitative analysis, gene expression, allelic discrimination (SNP genotyping), and plus/minus assays.		"Absolute Quantitation Relative Quantitation SNP Genotyping Plus/Minus assay"
SRUL02/13	Medicine	Biorobot M48	Qiagen	It is a desktop robotic workstation specially designed for magnetic particle based sample preparation. It is used for the purification of genomic DNA, total RNA, total nucleic acids, mRNA, viral RNA and viral nucleic acids. It has the capacity to treat 6 – 48 samples per run		Purification of genomic DNA, total RNA, total nucleic acids, mRNA, viral RNA and viral nucleic acids.
SRUL02/13	Medicine	Refrigerated Centrifuge 384 well plate	Thermo Scientific	It is used for the separation of microliter temperature-sensitive heterogeneous mixtures or samples. This device works by spinning the samples loaded in a rotor at high speed. The rotor reaches a maximum speed of 4,200 RPM.		" It is used for the separation of microliter temperature-sensitive heterogeneous mixtures or samples."
GM01/15	Medicine	Genetic Analyzer 3500xL	Applied Biosystems	It is a fluorescence-based DNA analysis instrument using capillary electrophoresis technology with 24 capillaries. It is used for sequencing, fragment analysis, and HID (human identification) analysis.		Sanger sequencing, Genotyping, Mutation analyses, Methylation, SNP and STR profiling.
SRUL02/13	Medicine	Genetic Analyzer 3130xL	Applied Biosystems	It is a fluorescence-based DNA analysis instrument using capillary electrophoresis technology with 16 capillaries. It is used for sequencing, fragment analysis, and HID (human identification) analysis.		"• DNA Sequencing • Fragment Analysis • Mutation Detection • Forensic DNA Analysis"
SRUL02/13	Medicine	Affymetrix Micro Array Scanner GeneChip	Affymetrix	The Affymetrix microarray contains sets of 25-nucleotide probes per gene. It uses GeneChip probe array. It is used to detect the expression of thousands of genes at the same time.	<ul style="list-style-type: none"> <li>•Gene Expression Profiling</li> <li>•SNP Genotyping</li> <li>•Copy Number Variation (CNV) Analysis</li> <li>•MicroRNA Profiling</li> <li>•Genome-Wide Association Studies (GWAS)</li> </ul>	
SRUL02/13	Medicine	Affymetrix Micro Array Laser light				
SRUL02/13	Medicine	Affymetrix Micro Array Autoloader				
SRUL02/13	Medicine	Affymetrix Micro Array Fluidic Station				
SRUL02/13	Medicine	Affymetrix Micro Array Hybridization Oven				
SRUL02/13	Medicine	Combined Centrifuge / Vortex Mixer	Grant-Bio	It is a fixed-speed 2400 rpm combined centrifuge/vortex mixer for combined or independent centrifuge and mixing applications of microtubes and 0.2 ml microtube strips in low volume applications.		This versatile equipment allows researchers to perform various sample preparation and processing tasks efficiently and conveniently.
SRUL02/13	Medicine	QIAxcel DNA Analysis System With Laptop	QIAxcel	The QIAxcel Advanced system fully automates sensitive, high-resolution capillary electrophoresis of up to 96 samples per run. It offers a broad range of optimized applications for DNA and RNA analysis.		<ul style="list-style-type: none"> <li>•Automated Electrophoresis for DNA &amp; RNA</li> <li>•PCR Product Analysis</li> <li>•Microsatellite Analysis</li> <li>•NGS Sample QC</li> <li>•High-Throughput Nucleic Acid Sizing</li> </ul>
SRUL02/13	Medicine	Agarose Gel Electrophoresis system (Qty:3)	Cleaver Scientific	It is used to resolve DNA fragments on the basis of their molecular weight.		Electrophoresis of DNA and RNA samples
SRUL02/13	Medicine	"ABI thermal cycler-9700"	Applied Biosystem	It is a laboratory apparatus used to amplify segments of DNA via the Polymerase Chain Reaction (PCR). The device has a thermal block with holes where tubes holding the PCR reaction mixtures can be inserted.		DNA amplification, Gene Cloning, mutation Analysis, DNA sequencing preparation, Gene expression analysis.
SRUL02/13	Medicine	Flex cycler 2 Gradient	Analytik jena	It is used to amplify segments of DNA via the Polymerase Chain Reaction (PCR). The device has a thermal block with holes where tubes holding the PCR reaction mixtures can be inserted. Blocks can also be equipped with gradient function which allows the quick and easy optimisation of new PCR assays.		Optimization of PCR assays, Gene expression analysis, mutation detection, DNA cloning and sequencing.
SRUL02/13	Medicine	QIACube	Qiagen	It is a robotic workstation for automated purification of DNA, RNA, or proteins using QIAGEN spin-column kits. 1 to 12 samples can be processed per run.		Nucleic acid extraction and purification
SRUL02/13	Medicine	Benchtop Centrifuge	Hermle	It is used to separate and purify molecular mixtures in a liquid medium based on their density gradient.		Cell pelleting, Blood sample processing and cell harvesting.
SRUL02/13	Medicine	Refrigerated Benchtop Centrifuge	Stuart Hermle	It is a laboratory equipment used for the separation of microliter temperature-sensitive heterogeneous mixtures or samples by keeping the samples cool. This device works by spinning the samples loaded in a rotor at high speed.		Nucleic acids and protein purification, isolation and extraction, Tissue culture, Separation of blood cells.
SRUL02/13	Medicine	APC SMART UPS RT 5000VA	APC	It supplies utility power to the connected loads in the event of a UPS overload condition or fault.		Uninterrupted power supply, Battery backup, Load management, Critical equipment protection.
SRUL02/13	Medicine	Electrophoresis Power supply (Qty:2)	Consort	Power supplies for electrophoresis are used to create the electrical current to power DNA/RNA separations, PAGE electrophoresis and transferring to membrane. The voltage determines the scope of function with 300V strong enough for running gels while 250V is needed to perform transfers.		The power sample used for running electrophoresis experiments.
SRUL02/13	Medicine	Biosafety Cabinet Microflow 2	AstecMicrow Bioquell LTD	The Microflow Class II Advanced Biological Safety Cabinet provides personnel and product protection for work through filtered air. HEPA-filtered, vertical, unidirectional airflow within the work area.		Product protection from contamination of the experiment/ Environment protection from contaminants within the cabinet/ Personnel protection from harmful agents.
SRUL02/13	Medicine	Thermo Espresso Microcentrifuge	Eppendorf	It is used for isolating and separating solids from liquids in a suspension. This 12-place centrifuge has a maximum speed of 14,500 rpm (14,500xg) and can hold microtubes with a volume of 0.5 to 2.0 mL.		It is used for isolating and separating solids from liquids in a suspension
SRUL02/13	Medicine	Vortex Genie	Scientific Industries	It is used to mix two different chemicals for a desired effect. It allows high speed shaking or vortexing with tough metal housing and speed ranging from 600-3200 RPM.		Mixing reagents, preparing samples for analysis.
SRUL02/13	Medicine	Qubit Fluorometer	Invitrogen	It is a benchtop fluorometer for the quantitation of DNA, RNA, and protein, using the highly sensitive and accurate fluorescence-based Qubit™ quantitation assays. Applications: Quantitative PCR, cloning, and next-generation sequencing (NGS)		<ul style="list-style-type: none"> <li>•Quantitation of DNA, RNA, and protein</li> <li>•Broad range application in qPCR and NGS</li> </ul>



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SRUL02/13	Medicine	Nanodrop Spectrophotometer	Implen GmbH	It is used for the quantitation of DNA, RNA and protein. Applications: dsDNA, ssDNA, RNA, mRNA, miRNA, protein		" It is used for the quantitation of DNA, RNA and protein."
SRUL02/13	Medicine	2100 Bioanalyzer	Agilent	It is an automated electrophoresis system that employs LabChip microfluidic technology to automate protein and nucleic acid electrophoresis.		Nucleic acid analysis, Protein analysis, Quality control, MicroRNA analysis, DNA Fragment analysis, RNA Integrity assessment
SRUL02/13	Medicine	Vortexer IKA-Bioanalyzer	Agilent	It is a minishaker Vortex Mixer for Agilent Bioanalyzer. Designed to hold LabChip firmly in place while vortexing.		Sample mixing and agitation
SRUL02/13	Medicine	Thermo Espresso Microcentrifuge	Eppendorf	It is used for isolating and separating solids from liquids in a suspension. This 12-place centrifuge has a maximum speed of 14,600 rpm (14,500xg) and can hold microtubes with a volume of 0.5 to 2.0 mL.		It is used for isolating and separating solids from liquids in a suspension
SRUL02/13	Medicine	Speed Vac (Qty:3)	Thermo Electron	The Thermo Savant DNA 110 Speed Vac rapidly evaporates liquids via centrifugal vacuum, to concentrate or dry solutes, analytes and residues in aqueous and organic solvents.		" Evaporates liquids via centrifugal vacuum, to concentrate or dry solutes, analytes and residues in aqueous and organic solvents."
SRUL02/13	Medicine	Refrigerated Plate Centrifuge	Hermle	It spins mixtures of different substances around very quickly so that they separate by centrifugal force. It is a high performance refrigerated model, designed to keep samples in plate cool. The maximum Speed is 17,000 rpm.		Isolation of biomolecules, DNA and RNA purification, Cell culture work, Microbiology studies, Blood sample processing.
SRUL02/13	Medicine	Hybridisation Oven	ThermoFisher Scientific	Instrument used for hybridization processes in laboratories, offering better agitation and higher throughput than regular ovens. Main applications include: Molecular Biology Assays, Southern (DNA) Hybridization, Northern (RNA) Hybridization and Western Blot		"Instrument used for hybridization processes Main applications include: Molecular Biology Assays, Southern (DNA) Northern (RNA) and Western Blot"
SRUL02/13	Medicine	Fume Hood	WESEMANN	A ventilated enclosure in which gases, vapors and fumes are captured and removed from the work area. An exhaust fan situated on the top of the laboratory building pulls air and airborne contaminants through connected ductwork and exhausts them to the atmosphere.		Extraction and discharge of harmful-gases produced in a conventional way during chemical processes.
SRUL02/13	Medicine	BIORAD Experion Electrophoresis Station	BIORAD	The Experion automated electrophoresis system employs LabChip microfluidic technology to automate protein and nucleic acid electrophoresis.		Employs lab chip micro fluidic technology to automate protein & nucleic acid electrophoresis/ Uses smaller quantities of reagents & samples/ Accomplishes analysis in single 30-40 min, automated step
SRUL02/13	Medicine	Experion Vortex Station	BIORAD	A ventilated enclosure in which gases, vapors and fumes are captured and removed from the work area. An exhaust fan situated on the top of the laboratory building pulls air and airborne contaminants through connected ductwork and exhausts them to the atmosphere.		Employs lab chip micro fluidic technology to automate protein & nucleic acid electrophoresis/ Uses smaller quantities of reagents & samples/ Accomplishes analysis in single 30-40 min, automated step
SRUL02/13	Medicine	Experion Priming Station	BIORAD	The Experion priming station is used to prepare the microfluidic chips for sample analysis. The priming station applies pressure to the priming well of the chip and fills the network of microchannels with the gel-stain solution (a mixture of Experion gel and stain).		Employs lab chip micro fluidic technology to automate protein & nucleic acid electrophoresis/ Uses smaller quantities of reagents & samples/ Accomplishes analysis in single 30-40 min, automated step
SRUL02/13	Medicine	Vortex Genie	Scientific Industries	It is used to mix two different chemicals for a desired effect. It allows high speed shaking or vortexing with tough metal housing and speed ranging from 600-3200 RPM.		"To mix the reagents of an assay or to mix an experimental sample and a diluent"
SRUL02/13	Medicine	Balance (Citizon)	Citizen	It is used to determine the mass of small samples with a high degree of accuracy and precision with a capacity ranging from 2mg to 220g.		"It is used to determine the mass of small samples with a high degree of accuracy and precision"
SRUL02/13	Medicine	Balance (Mettler Toledo)	Mettler Toledo	It is used to determine the mass of small samples with a high degree of accuracy and precision with a capacity ranging from 0.5g to 610g.		"It is used to determine the mass of small samples with a high degree of accuracy and precision"
SRUL02/13	Medicine	Hybridisation Oven	ThermoFisher Scientific	Instrument used for hybridization processes in laboratories, offering better agitation and higher throughput than regular ovens. Main applications include: Molecular Biology Assays, Southern (DNA) Hybridization, Northern (RNA) Hybridization and Western Blot		"Instrument used for hybridization processes Main applications include: Molecular Biology Assays, Southern (DNA) Northern (RNA) and Western Blot"
SRUL02/13	Medicine	Fume Hood for Radioactive Materials	WESEMANN	It is used for protecting users and the environment from exposure to radioactive materials such as polonium, radium, strontium, tritium, and radioactive waste.		It ensures radioactive contaminants are disposed of the right way & do not harm those working with them.
SRUL02/13	Medicine	Freezers -80 (1) Freezers -80 (2)	Thermo Scientific	It is a piece of equipment used extensively in life sciences for long-term storage of biomolecules which provides a temperature between -40 to -80 °C to protect samples containing biomolecules like oligonucleotides and proteins from heat-associated denaturation.		<ul style="list-style-type: none"> <li>•Long-Term Storage of Biological Samples</li> <li>•Storage of cell lines, tissues</li> <li>•Storage of microbial cultures and cell lines</li> </ul>
SRUL02/13	Medicine	Thermo Espresso Microcentrifuge	Eppendorf	It is used for isolating and separating solids from liquids in a suspension. This 12-place centrifuge has a maximum speed of 14,600 rpm (14,500xg) and can hold microtubes with a volume of 0.5 to 2.0 mL.		It is used for isolating and separating solids from liquids in a suspension
SRUL02/13	Medicine	Centrifuge/ Vortex Mixer	Grant-Bio	It is a fixed-speed 2400 rpm combined centrifuge/vortex mixer for combined or independent centrifuge and mixing applications of microtubes and 0.2 ml microtube strips in low volume applications.		"Centrifuge and mixing applications of microtubes and 0.2 ml microtube strips in low volume application"
SRUL02/13	Medicine	Thermal cycler	Analytik jena	It is a laboratory apparatus used to amplify segments of DNA via the Polymerase Chain Reaction (PCR). The device has a thermal block with holes where tubes holding the PCR reaction mixtures can be inserted.		PCR amplification, DNA sequencing preparation, Mutation detection and genotyping.
SRUL02/13	Medicine	Thermal cycler	Analytik jena			
SRUL02/13	Medicine	Refrigerated Eppendorf Centrifuge	Eppendorf	It is used to separate and purify molecular mixtures in a liquid medium based on their density gradient. Rotor that spins up to 16,400 RPM with maximum RCF up to 25,000 x g. The Eppendorf 5417R comes equipped with an integrated cooling fan that helps remove residual heat build-up.		Separate and purify molecular mixtures in a liquid medium based on their density gradient
SRUL02/13	Medicine	Auto Vortex Mixer	Stuart Scientific	It is used to mix small vials of liquids in a quickly oscillating circular motion.		"Mix small vials of liquids in a quickly oscillating circular motion."
SRUL02/13	Medicine	Thermo Espresso Microcentrifuge	Eppendorf	It is used for isolating and separating solids from liquids in a suspension. This 12-place centrifuge has a maximum speed of 14,600 rpm (14,500xg) and can hold microtubes with a volume of 0.5 to 2.0 mL.		It is used for isolating and separating solids from liquids in a suspension
SRUL02/13	Medicine	Ultrapure water system (Qty:2)	Millipore Corp	The Millipore Milli-Q Synthesis System combines ultraviolet photo-oxidation and ultrafiltration technologies in one purification system and produces pyrogen- and RNase-free ultrapure water.		"Provides Ultrapure grade water."
SRUL02/13	Medicine	Waterbath (Qty:3)	protech	It is a laboratory equipment made from a container filled with heated water. It is used to incubate samples in water at a constant temperature over a long period of time.		Incubate samples in water at a constant temperature over a long period of time



SRUL02/13	Medicine	BioSpectrum AC imaging UVP		Automated system for agarose gel and western blot imaging		It is used for viewing gels under a transilluminator
SRUL02/13	Medicine	Chemiluminescence Analyser/ Biospectrum		An accessory to the BioSpectrum AC imaging UVP, which provides biolite spectrum		It is used for viewing gels under a transilluminator
SRUL02/13	Medicine	Lyophilizer	Ilshin	It preserves biological material by removing the water from the sample, which involves first freezing the sample and then drying it, under a vacuum, at very low temperatures.		Biological samples preservation.
SRUL02/13	Medicine	Hotplate with Magnetic stirrer	Stuart	Powerful magnets and motor give stirring speed up to 1500rpm and volumes up to 15 litres. Powerful magnets and motor give stirring speed up to 1500rpm and volumes up to 15 litres.		Mixing and heating aqueous solutions for a great variety of chemical reactions such as synthesis
SRUL02/13	Medicine	UV Crosslinker (Qty:2)	Stratagene	Instrument allowing for quick, safe, and efficient sample exposure to a controlled amount of UV radiation. Used to modify the structures of nucleic acids, proteins and microorganisms; in linking nucleic acids to membranes for blotting procedures; etc.		It is used for linking DNA/RNA/ Proteins on membranes for blotting procedures
SRUL02/13	Medicine	MerMade	Bioautomation	The MerMade12 Oligonucleotide synthesizer is designed to synthesize DNA, RNA and LNA oligonucleotides in a column format using standard or modified chemistries. 12 primers can be synthesized at a time		DNA, RNA and LNA synthesis / Trypton ON and OFF synthesis oligos/ Synthesis using phosphoramidite chemistry
SRUL02/13	Medicine	pH METER	Eutch Instrument	An instrument used to measure hydrogen ion activity in solutions - in other words, measures acidity/alkalinity of a solution. The degree of hydrogen ion activity is ultimately expressed as pH level, which generally ranges from 1 to 14.		An instrument used to measure hydrogen ion activity in solutions- measures acidity/alkalinity of a solution.
GM01/15	Medicine	Ultracentrifuge	Thermo Scientific	It is used to separate particles suspended in a liquid according to particle size and density, viscosity of the medium, and rotor speed. Intuitive full color LCD touch screen keeps operation and programing simple.		Purification as well as characterization of low molecular weight polymers upto multi-mega Dalton protein complexes and organelles/ Separation based on physical properties
SRUL02/13	Medicine	Ultracentrifuge	Beckman Coulter	It is used to separate particles suspended in a liquid according to particle size and density, viscosity of the medium, and rotor speed. It operates at a maximum speed of 100,000rpm. It has an on-board computer, powerful Optima eXpert software and an easy-to-use touch screen.		Preparative Ultra centrifuge/ Simple rapid method to remove and isolate the compounds/Maximum rotational speed os 100,000 RPM
SRUL02/13	Medicine	Fume Hood for Primer Synthesis	WESEMANN	A ventilated enclosure in which gases, vapors and fumes are captured and removed from the work area. An exhaust fan situated on the top of the laboratory building pulls air and airborne contaminants through connected ductwork and exhausts them to the atmosphere. It is used for ventilation of enclosed workspaces for designing oligonucleotide primers.		Capture, contain and exhaust harmful and dangerous fumes, vapours and matters generated while synthesis
SRUL02/13	Medicine	Autoclave	Consolidated stills and sterilizers	The equipment uses steam under pressure to kill harmful bacteria, viruses, fungi, and spores on items that are placed inside a pressure vessel. The items are heated to an appropriate sterilization temperature for a given amount of time.		"This uses steam under pressure to kill harmful bacteria, viruses, fungi, and spores on items that are placed inside a pressure vessel. The items are heated to an appropriate sterilization temperature for a given amount of time."
SRUL02/13	Medicine	High Performance Chromatography system (HPLC)	Waters	Analysis and determination of sample components. It detects the presence of trace compounds or impurities.		HPLC can be used to separate the constituents of a compound, how much of each compound is found within the mixture and thereby helps to identify what is each compound
SRUL02/13	Medicine	PF2D Protein Fractionation System	Beckman Coulter	It provides 2D separation of proteins based on isoelectric point and hydrophobicity		It is used to fractionate the proteins, generate proteome maps and thereby elute fractions for further downstream processes like Mass Spectrometry
SRUL02/13	Medicine	GS800 Calibrated Densitometer	Biorad	Provides the concentration of molecules in the bands of a blot (northern, southern and western)		It is used to quantitate bands of xray films, gels and pictures. It converts transparent and opaque electrophoretic samples into digital data
SRUL02/13	Medicine	Offgel Fractionator with Laptop	Agilent	Isoelectric Focusing of proteins and peptides in IPG Strips.		It is used for the protein /peptide fractionation on IPG strips and the sample elutes can be used for further downstream process like Mass Spectrometry
SRUL02/13	Medicine	Peptide Synthesizer	Symphony X	It is used for the synthesis of peptides. This is achieved through the successive addition of protected amino acid groups to a growing peptide chain fixed on a solid phase.		It is used for the synthesis of peptides
SRUL02/13	Medicine	UltraSonic Bath (Sonicator/Degasser)	Bransonic	The ultrasonic bath allows both sonication and degassing of solvents and samples. In the "bath" the solvent acts on the samples, quickly performing dispersing, mixing and dissolving.		It is used for sonication and degassing of solvents and samples for Mass spectrometry, HPLC etc
SRUL02/13	Medicine	Compact Dry Bath	Thermo Scientific	It is used to thaw, boil, incubate and warm samples for use in molecular biology, assay preparation, tissue/cell culture, biochemistry, genetics and proteomics. Average heating rate (30° to 100°C, ambient at 25 °C)		It is used to thaw, boil, incubate and warm samples for use in molecular biology, assay preparation, tissue/cell culture, biochemistry, genetics and proteomics.
SRUL02/13	Medicine	UV Stratalinker 2400 (Qty:2)	Stratagene	Instrument allowing for quick, safe, and efficient sample exposure to a controlled amount of UV radiation. Used to modify the structures of nucleic acids, proteins and microorganisms; in linking nucleic acids to membranes for blotting procedures; etc.		It is used for linking DNA/RNA/ Proteins on membranes for blotting procedures
SRUL02/13	Medicine	pH METER (Qty:3)	Eutch Instrument	An instrument used to measure hydrogen ion activity in solutions - in other words, measures acidity/alkalinity of a solution. The degree of hydrogen ion activity is ultimately expressed as pH level, which generally ranges from 1 to 14.		An instrument used to measure hydrogen ion activity in solutions- measures acidity/alkalinity of a solution.
SRUL02/13	Medicine	Analytical Balance	Citizen	Analytical Balances are specific types of weighing balances which measure much smaller masses than the average scale. An analytical balance is the most precise because it has a higher readability, measuring to the nearest 0.0001g. Analytical balances usually include draught proof weighing chambers for precise measuring of mass and are often used alongside anti-vibration tables to increase accuracy.		Quantitative chemical analysis, to determine the mass of solid objects, liquids, powders and granular substances.
SRUL02/13	Medicine	Eppendorf Refrigerated Centrifuge	Eppendorf	Equipment utilized in laboratories to separate and purify molecular mixtures in a liquid medium based on their density gradient.		Nucleic acid extraction and purification, Pelleting and isolating protein complexes, and performing protein purification processes
SRUL02/13	Medicine	Multi-volume, multi Sample Spectrophotometer .	Bioteck	The spectrophotometer is an instrument which measures the amount of light that a sample absorbs. The spectrophotometer works by passing a light beam through a sample to measure the light intensity of a sample.		Spectrophotometer is an analytical instrument used for the objective calculation of visible light, UV light, or infrared light emission or reflection.
SRUL02/13	Medicine	Sonicator	MSE, USA	A sonicator, also known as an ultrasonic homogenizer or ultrasonic processor, is a laboratory instrument used for various applications that involve the disruption, homogenization, and extraction of biological samples or materials using high-frequency sound waves. The process of using ultrasonic waves to disrupt cells and particles is called "sonication."		" Disruption, homogenization, and extraction of biological samples or materials using high-frequency sound waves."
SRUL02/13	Medicine	UV-VIS Spectrophotometer-Thermo. (Qty:2)	Thermo Electron	Ultraviolet/visible microplate reader with 200-1000nm wavelength monochromator. It is suitable for reading the absorption in various assays, including for temperature sensitive assays. This reader is ideal for reading both cuvettes and microplate. It accommodates microplates of all sizes (6 to 384 well plates) and two cuvettes of glass, plastic or quartz material with a standard to ultra-micro volume. In addition, this reader performs measurements in less than 10 seconds. It can read the original absorptions of DNA, RNA and proteins without sample derivatization for quantification and purity determinations. This reader is ideal for reading protein assays, enzyme assays, kinetics assays, immunoassays, cell proliferation and cytotoxicity assays, apoptosis assays, reporter gene assays and GPCR assays.		Reading protein assays, enzyme assays, kinetics assays, immunoassays, cell proliferation and cytotoxicity assays, apoptosis assays, reporter gene assays and GPCR assays



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SRUL02/13	Medicine	Tissue Homogenizer.	Omni	Tissue Homogenizer is ideal for tissue homogenization, emulsions and suspensions, cell disruption, protein extraction and research applications. It can be hand-held or mounted to a lab stand for lengthier processing.		"Tissue Homogenizer is ideal for tissue homogenization, emulsions and suspensions, cell disruption and protein extraction"
GM01/15	Medicine	Automated Microplate Reader. BMG LABTECH.	BMG-Lab Tech	Environmentally controlled plate reader for the measurement of biological, chemical or physical events in microplates, usually a 96-well plate. The following modes are possible: Fluorescence Intensity; Time-Resolved Fluorescence; Fluorescence Polarization; Luminescence; Absorbance; and AlphaScreen. Finds application in assays like: ELISAs; protein and cell growth assays; protein-protein interactions; reporter assays; molecular interactions; enzyme activity; cell toxicity, proliferation, and viability; immunoassays.		Measurement of biological, chemical or physical events in microplates, usually a 96-well plate
SRUL02/13	Medicine	pH Meter-Eutch instrument.	Eutch Instrument	A pH meter is a common laboratory instrument used to measure the acidity or alkalinity of a solution, typically on a logarithmic scale of 0 to 14, where pH 7 is neutral, pH values below 7 are acidic, and pH values above 7 are alkaline or basic.		An instrument used to measure hydrogen ion activity in solutions- measures acidity/alkalinity of a solution.
SRUL02/13	Medicine	Benchtop pH meter.	HANNA	Can be calibrated up to five points with eight preprogrammed buffers or five custom buffers.		To measure the acidity and alkalinity of liquid or semi-solid samples across many industries with applications in waste water, drinking water, food and beverage, chemical and pharmaceutical testing.
SRUL02/13	Medicine	Advance Gel Documentation Imaging System.	Analytik Jena US, Upland, CA 91786, USA	The UVP Biospectrum Western Blot Imager is a high-resolution chemiluminescent gel imager with built-in lighting and a light-tight darkroom. This easy-to-use imaging system has a VGA software triggered camera mounted in the darkroom, perfectly positioned, but that's easy to access. Below the camera area is the light-tight dark room, for optimal imaging conditions, with overhead lighting and an adjusting platform.		"Imaging and documentation of protein suspended within polyacrylamide or agarose gels and nucleic acid"
SRUL02/13	Medicine	Hybridization oven - Thermo Fisher	Thermofisher Scientific	Instrument used for hybridization processes in laboratories, offering better agitation and higher throughput than regular ovens. Main applications include: Molecular Biology Assays, Southern (DNA) Hybridization, Northern (RNA) Hybridization and Western Blot.		Offer better agitation and higher throughput than regular ovens. Main applications include: Molecular Biology Assays, Southern (DNA), Northern (RNA) and Western Blot.
SRUL02/13	Medicine	Refrigerated Centrifuge - Hermle, Z323K	Stuart Hermle	Equipment utilized in laboratories to separate and purify molecular mixtures in a liquid medium based on their density gradient.		Separate and purify molecular mixtures in a liquid medium based on their density gradient.
SRUL02/13	Medicine	Automated Karyotyping System- Zeiss	Zeiss	Karyotyping is a laboratory technique used to analyze the number and structure of chromosomes in an individual's cells. It is an essential tool in cytogenetics and clinical genetics to detect chromosomal abnormalities and diagnose genetic disorders.		"Karyotyping both using conventional Giemsa stain or M-FISH. Measures chromosomal copy numbers via a technique termed comparative genomic hybridization (CGH).
SRUL02/13	Medicine	Automated Non Contract Laser Micro Dissection and Pressure Catapulting System, Axio Oberver ZI.	Zeiss	The Zeiss Axio Observer ZI is a series of advanced research-grade microscopes known for their imaging capabilities, including live-cell imaging, fluorescence imaging, and other sophisticated techniques.		Search-grade microscopes known for their imaging capabilities, including live-cell imaging, fluorescence imaging, and other sophisticated technique
SRUL02/13	Medicine	Cell Observer for Sophisticated Long Term Axio Oberver ZI.	Zeiss	The "Axio Observer ZI" is a series of advanced research-grade microscopes manufactured by Zeiss. These microscopes are known for their capabilities in live cell imaging, including long-term time-lapse experiments, fluorescence imaging, and other sophisticated imaging techniques.		"Live cell imaging, including long-term time-lapse experiments, fluorescence imaging, and other sophisticated imaging techniques"
SRUL02/13	Medicine	Complete molecular Interactive, axio Imager MI.	Zeiss	The "Axio Imager MI" is a series of research-grade microscopes manufactured by Zeiss, known for their versatility and capabilities in various microscopy techniques, including brightfield, fluorescence, and differential interference contrast (DIC) imaging. These microscopes are commonly used in molecular biology, cell biology, and other life science research applications.		"Extremely comfortable ergonomics and operation for more relaxed working, even over long periods Measure cell shapes, areas, lengths and calculate intensities. Additional software for gel intensities, microarray clustering"
SRUL02/13	Medicine	Digital fluorescence microscope.	Zeiss	A digital fluorescence microscope is a type of microscope equipped with specialized optics and fluorescence imaging capabilities that allow researchers to visualize and analyze fluorescently labeled samples. It is widely used in various scientific fields, including cell biology, immunology, neuroscience, and microbiology, for studying cellular structures, protein localization, molecular interactions, and more.		It allows researchers to visualize and analyze fluorescently labeled samples. It is widely used in various scientific fields, including cell biology, immunology, neuroscience, and microbiology, for studying cellular structures, protein localization, molecular interactions
SRUL02/13	Medicine	LSM 700.	Zeiss	The LSM 700 is a laser scanning confocal microscope manufactured by ZEISS, a well-known company specializing in microscopy and imaging systems. The LSM 700 is part of the LSM (Laser Scanning Microscope) series, which includes a range of confocal microscopes with different features and capabilities.		"Special applications, such as live cell and spectral imaging."
GM01/15	Medicine	"Confocal Imaging Microscope for live and fixed cell imaging SL.NO: "	Zeiss	The newest Zeiss confocal system, the LSM 980 increases speed and sensitivity compared with previous confocal systems, and offers the unique and exciting new AiryScan 2 detector assembly, which increases maximum system resolution by up to 1.7x, and has unparalleled signal to noise ratio. With the AiryScan FAST detector, you now have near super-resolution imaging possible in a live cell setting, with no special sample preparation required and compatibility with traditional dyes and fluorescent proteins. The LSM 980 can be fitted to inverted, upright, as well as upright fixed stage microscope frames. Integrated and operated by ZEN blue microscopy software, the LSM 980 is both powerful and easy to use.		This provides the ability to image deep into tissues with high resolution, and optical sectioning for 3D reconstructions of imaged samples.
SRUL02/13	Medicine	Fume Hood for Chemicals Qty (3).	WESEMANN	A fume hood is a type of laboratory equipment designed to provide a safe working environment for handling potentially hazardous chemicals and other materials that may produce noxious or harmful fumes, vapors, or aerosols. Fume hoods are an essential safety measure in laboratories to protect researchers from exposure to harmful substances and to prevent contamination of the laboratory environment.		It is used for the extraction and discharge of harmful gases produced in a conventional way during chemical processes.
SRUL02/13	Medicine	High end Confocal Laser Scanning Microscope, LSM800 meta	Zeiss	LSM 800 provides sensitive image acquisition leading to better flexibility in live cell imaging and high-end image quality, well suited for various research areas. The high sensitivity of the detectors allows detection of weak fluorescent signals while employing low levels of laser illumination and rapid frame rates. The system is capable of spectral imaging and unmixing, and remove autofluorescence background from low signals in fixed brain tissue. The acquisition software can acquire and stitch tiled images of samples too large to fit within the field of view. It can easily be programmed to capture images of multiple regions on a slide or multi-well plate.		Study of biofilms and antibiotic-resistant strains of bacteria. Development of modern confocal microscopes has been accelerated by new advances in computer and storage technology, laser systems, detectors, interference filters, and fluorophores
SRUL02/13	Medicine	Sample Preparation Station for Flow Cytometry	Beckman Coulter	A sample preparation station for flow cytometry is a dedicated workspace or workstation designed to facilitate the efficient and sterile preparation of samples for flow cytometry analysis. Flow cytometry is a powerful technique used to analyze cells or particles in a fluid stream, and proper sample preparation is crucial to obtaining accurate and reproducible results.		"A sample preparation station for flow cytometry is a dedicated workspace or workstation designed to facilitate the efficient and sterile preparation of samples for flow cytometry analysis."
SRUL02/13	Medicine	Microcapillary Flow Cytometer	Beckman Coulter	"The guava easyCyte™ systems use patented, microcapillary, laser-based technology capable of detecting mammalian and microbial cells and beads. A sample of fluorescently labeled cells is aspirated into a uniquely proportioned microcapillary flow cell. Forward and side scatter characteristics are detected by photodiode, and fluorophores excited by the violet, blue, or red laser emit signals that are spectrally filtered to resolve upto 10 fluorophores simultaneously."		"To evaluate bone marrow, peripheral blood and other fluids in your body"
SRUL02/13	Medicine	Multiplex Luminex 200	Merk-Millipore	A flexible analyzer based on the principles of flow cytometry. The system enables you to multiplex (simultaneously measure) up to 100 analytes in a single microplate well, using very small samples.		The Luminex® xMAP® technology is a bead-based immunoassay that allows for multiplex detection of up to 100 analytes simultaneously.
SRUL02/13	Medicine	Ultra Pure Water System Elix 10	Millipore Corp	Produces 10 liters of analytical-grade type II water per hour. Built-in bactericidal UV lamp designed to reduce bacterial levels before the water is stored in a polyethylene (PE) reservoir. Water after treatment: Micro-organisms 10 cfu/mL, silicates 0.1%, TOC 30 ppb. Includes brand new prefilter, RO filter and UV lamp. User manual.		"Provides Ultrapure grade water."
SRUL02/13	Medicine	Autoclave	Rodwell phoenix	The Phoenix is the ideal compact autoclave for any small scale operation that needs reliable functionality without losing valuable space.		Decontaminate certain biological waste and sterilize media, instruments and lab ware.
SRUL02/13	Medicine	Isotherm Laboratory Oven-Esco.	ESCO	An isotherm laboratory oven is a type of oven designed to maintain a constant temperature throughout its internal chamber, providing a stable and controlled environment for various laboratory applications.		To perform precise drying, heating, annealing, and sterilizing of samples/agents from 7.5 °C above ambient to 300 °C.
SRUL02/13	Medicine	Cell viability analyzer.	Beckman Coulter	The Vi-CELL Cell Viability Analyzer provides an automatic and cost effective means to perform the trypan blue dye exclusion method. This data is essential to the decision making process for basic tissue culture cell passage and maintaining optimum culture conditions in bioreactors.		Subjective determination of cell count, as well as manual, time consuming steps.
SRUL02/13	Medicine	Culture Cell Imaging System, Axiovert 40C	Zeiss	"This microscope is setup for Brightfield with Phase Contrast studies - Enhancing components, such as PH light annulus have been added"		An inverted fluorescent microscope uses fluorescence to study specimens, such as living cells at the bottom of a petri dish or tissue culture.
SRUL02/13	Medicine	ICSI Application, Carl Zeiss, Axio Oberver.	Zeiss	ZEISS Axio Observer is your inverse platform for demanding multimodal imaging of living and fixed specimens.		An inverted microscope is necessary to bring about a stable platform for carrying out manipulation procedures like ICSI, which entails both precision and speed.



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SRUL02/13	Medicine	Phase Contrast Microscope, AXIovert 40C.	Zeiss	This Zeiss Axiovert 40 C is an inverted phase contrast microscope ideal for tissue culture or other similar applications. The microscope is binocular but has a photo port for adding a camera.		It enables visualisation of cells and cell components that would be difficult to see using an ordinary light microscope.
SRUL02/13	Medicine	Center Laminar Flow - ESCO	ESCO	A laminar flow cabinet keeps a controlled work surface for applications requiring a sterile work space whereas contaminant access is being prevented by a constant filtered airflow across the surface.		Provides a sterile working environment for samples and work processes such as media plate preparation.
SRUL02/13	Medicine	Freezer-80 DEG	Thermo Scientific	Laboratory freezers are the refrigerated cabinets for storing biological samples and reagents in animal laboratories at temperatures ranging from -40oC to 10oC. The purpose of freezing biological samples is to store them for long-term usage without damaging their structural and metabolic integrity.		Research, in medical and clinical applications, and in industrial settings for the storage of samples that require ultra low storage temperatures.
GM01/15	Medicine	Lab Refrigerator 1400L	ARCTIKO	Laboratory refrigerators are used to cool samples or specimens for preservation		To store samples and specimens, as well as vaccines and medicines, at a specific temperature to ensure they do not become spoiled.
SRUL02/13	Medicine	Bench Top Centrifuge - Hermle	Stuart Hermle	Benchtop centrifuges are the equipment utilized in laboratories to separate and purify molecular mixtures in a liquid medium based on their density gradient.		This is used to separate and purify molecular mixtures in a liquid medium based on their density gradient.
SRUL02/13	Medicine	Real Time Live - Cell Imaging and Analysis System.	Essen Bioscience	PHCbI brand multigas (CO2/O2) incubators represent generations of successful product development in response to emerging cell culture protocols used around the world. Their incubators use innovative technology to fulfill a wide range of applications, from the most sophisticated, finely tuned and externally regulated processes in clinical medicine, to the widespread need for cell culture in mammalian investigations in academic, biotechnology, and pharma laboratories.		Live-cell imaging is mainly performed with fluorescence microscopy. Widefield microscopy, providing flexible excitation and fast acquisition, is typically used to visualize cell dynamics and development over long times. Confocal microscopy is typically used to study subcellular dynamic events.
SRUL02/13	Medicine	Freezer-20/4 DEG	Thermo Scientific	Laboratory freezers are the refrigerated cabinets for storing biological samples and reagents in animal laboratories at temperatures ranging from -40oC to 10oC. The purpose of freezing biological samples is to store them for long-term usage without damaging their structural and metabolic integrity.		The purpose of freezing biological samples is to store them for long-term usage without damaging their structural and metabolic integrity.
SRUL02/13	Medicine	Incubator- Thermo Electron (QTY7)	Thermo Scientific	Thermo Scientific™ Forma™ Series II Water-Jacketed CO2 Incubators provide precise CO2 control, unsurpassed temperature stability and superior parameter recovery characteristics, with continuous contamination control technology. They provide an environment for the growth of microbiological samples or mammalian cells for research (FDA Class 1), and IVF and other regulated cell therapy applications (FDA Class 2).		Provide an environment for the growth of microbiological samples or mammalian cells for research (FDA Class 1), and IVF and other regulated cell therapy applications (FDA Class 2).
SRUL02/13	Medicine	Advanced Biosafety Cabinet Micro Flow Class 2, Qty (3) . SL.NO: 7783, 7689, 7760, 7638	AstecMicroflow Bioquell LTD	Biosafety Cabinets are open-fronted which protect the laboratory workers and the environment from harmful biological agents. Class II BSCs also prevent biological materials (i.e cell cultures, microbiological stocks) inside it from being contaminated.		Protect the laboratory workers and the environment from harmful biological agents. Class II BSCs also prevent biological materials (i.e cell cultures, microbiological stocks) inside it from being contaminated.
SRUL02/13	Medicine	Micro- centrifuge, Thermo-Fisher	Eppendorf	A microcentrifuge is a laboratory instrument used to rapidly spin small volumes of liquid samples at high speeds. It is a critical tool in many molecular biology, biochemistry, and life science research applications, enabling various processes such as DNA/RNA extraction, protein purification, cell fractionation, and enzyme assays.		It is used to rapidly spin small volumes of liquid samples at high speeds, enabling various processes such as DNA/RNA extraction, protein purification, cell fractionation, and enzyme assays.
SRUL02/13	Medicine	Combined Centrifuge / Vortex Mixer.	Grant-Bio	A combined centrifuge/vortex mixer is a laboratory instrument that integrates the functionalities of both a centrifuge and a vortex mixer into a single unit. This versatile equipment allows researchers to perform various sample preparation and processing tasks efficiently and conveniently.		This versatile equipment allows researchers to perform various sample preparation and processing tasks efficiently and conveniently.
GM01/15	Medicine	MACSQuant 16 Flow Cytometer	Miltenyl Biotec	The MACSQuant Analyzer 10 brings to life the versatility and power required for modern flow cytometry applications. Whether mining for rare cells, analyzing the efficiency of your cell manufacturing process or investigating signaling pathways, you are equipped for the task at hand. With a range of automated features, this flow cytometer lays the foundation for true automation present in all instruments belonging to the MACSQuant Family of flow cytometers.		The instrument supports a wide range of sample types, from cells and microorganisms to subcellular particles, enabling versatile applications across diverse fields such as immunology, cancer research, stem cell biology, and drug discovery.
SRUL02/13	Medicine	OCR & ECAR 96 Well Microplate Analyzer	Agilent Technologies USA	It measures the rate of change of currently dissolved oxygen and pH in the media immediately surrounding living cells cultured in a microplate. It is designed for cell metabolism, drug and regulator studies. More specifically, it measures OCR and ECAR of live cells in a 96-well plate format.		It measures the rate of change of currently dissolved oxygen and pH in the media immediately surrounding living cells cultured in a microplate. It is designed for cell metabolism, drug and regulator studies
SRUL02/13	Medicine	Water Bath(Qty.3)	protech	Standard water baths maintain temperatures from 5°C above ambient to 100°C. Without external heating equipment, water baths cannot attain temperatures above 100°C. As water is an excellent conductor of heat, wet baths preserve a high degree of temperature uniformity throughout the basin (with tolerances down to 0.2°C).		Used to incubate samples at a constant temperature over a long period of time.
GM01/15	Medicine	Freezer-20/4 degree	Thermo Fisher Scientific	Laboratory freezers are the refrigerated cabinets for storing biological samples and reagents in animal laboratories at temperatures ranging from -40oC to 10oC. The purpose of freezing biological samples is to store them for long-term usage without damaging their structural and metabolic integrity.		Refrigerators used in the medical and scientific fields are mostly intended for the conservation and storage of reagents, biological samples and medication.
SRUL02/13	Medicine	Dry Block Heater	IKA	Digital block heater for one aluminum block provides precise temperature control in small vessels. Included PT-1000 temperature sensor allows temperature control directly in the sample vessel. It is used with PCR tubes, PCR strips, Greiner tubes, microplates and cuvettes. The block heater is ideal for melting and boiling point determination, enzyme reactions, incubation and activation of cultures, immunosassays, DNA denaturation, culture media tests, coagulation tests, blood-urea-nitrogen determinations and in situ hybridizations.		The purpose of dry block heaters is to control temperature so that it's uniform, stable, and precise during heating and cooling applications. They are used to cool or heat samples in a highly controlled manner
SRUL02/13	Medicine	Slide Warmer	Premiere	Ideal for use in the fields of cytology, histology, pathology, and biology for paraffin tissue section mounting.		To warm slides to a specified temperature for safe fixing, drying, and staining of samples.
SRUL02/13	Medicine	n-LC/ Orbitrap Exploris 240 Mass Spectrometer	Thermo Fisher Scientific	From small- to large-molecule analyses, the Thermo Scientific Orbitrap Exploris 240 mass spectrometer delivers performance and versatility to drive discovery and identification with the quantitative precision and accuracy to confidently scale up while achieving impact.It is Nano LC coupled with Mass Spectrometry		Mainly used for drug discovery and proteomic studies. Metabolomics, proteomics, and translational research and Food, beverage, industrial, and environmental testing.
SRUL02/13	Medicine	VeritiPro Thermal Cycler	ThermoFisher Scientific	It is a laboratory apparatus used to amplify segments of DNA via the Polymerase Chain Reaction (PCR). The device has a thermal block with holes where tubes/plates holding the PCR reaction mixtures can be inserted.		<ul style="list-style-type: none"> <li>• Amplification of DNA and RNA samples by polymerase chain reaction</li> <li>• Gradient temperature to help primer annealing in PCR*</li> </ul>