



Al Ain University

Health and Biomedical Research Center > Facilities

Facilities

1. General purpose lab including HPLC, spectrophotometer, centrifuges, -80°C freezer.
2. Cell culture lab including Biosafety cabinet level 2, -20°C freezer, CO₂ incubator, centrifuges, inverted microscopy.
3. Biochemistry, molecular biology and microbiology lab including CO₂ incubator, PCR machine, Real-time PCR machine, gel electrophoresis, Western blotting, microbiology equipment, centrifuges, fluorometer, fluorescence microscopy and immuno-precipitation equipment.
4. Chemical synthesis lab including a fume hood that is equipped with a positive-pressure nitrogen line system and a closed-system reflux apparatus, a reduced-pressure rotary evaporator and a high-vacuum negative-pressure pump, silica gel chromatography.
5. Molecular modeling lab including high performing workstations along with all necessary software for docking, pharmacophore modelling and molecular dynamics simulations.

Facility/Lab Name	Equipment	Equipment Brand	Equipment Specification	Equipment Description	Image
Chemical Synthesis Lab	High-performance liquid chromatography (HPLC)	JASCO	-PU-4180-LPG RHPLC QUARTERNARY PUMP COMPACT FULL FUNCTION --HPLC PUMP. INU-7725i Manual Injector Unit for extensible bay. UV-4070 UV/VIS DETECTOR 190-900 NM (D2 + WI LAMPS). C18 & C8 columns	To identify, quantify and purify a particular analyte or compound	

Rotary evaporator	STUART-UK	Speed range: 10 to 10RPM, For efficient removal of solvents from the samples at low pressure by evaporation, electrical supply: 100-240V. Receiving flask 1000ml, florentine flask 1000ml, feed tube with stopcock, vaccume seal, conical joint clip, spherical joint clip.
Bath sonicator	Elma Schmidbauer GmbH, Germany	U: 220-240V, F:50/60Hz, IP:20, P:35W Agitate particles in a solution
Accu Therm Microtube shaking incubator	Labnet-CHINA	Model I-4002-HCS, power:220-240V, 50/60Hz 150w, fuse:250V 1.5A To simultaneously incubate and shake samples, allowing scientists to control mixing speed and temperature settings
Centrifuge	Eppendorf	model 5424, rotary knobs, refrigerated, with rotor FA-45-24-11, 230 V/50-60Hz Separate particles from the solvent using high speed rotation
Pharmaceutical Technology and Biochemistry Lab Bench-top centrifuge	HERMLE Labortechnik GmbH-GERMANY	- Max. Speed: 16000 rpm• Max. RCF: 24325 xg• Max. Volume: 6 x 250ml• Speed range: 200 - 16000 rpm• Separate particles from the solvent using high speed rotation

		Temperature range: -20°C to 40°C• Running time: 59 min 50 s / 10 s increments, 99 h 59 min / 1 min increments• Dimensions (WxHxD): 72 cm x 36 cm x 51 cm• Weight: 77 kg	
ChemiPro camera system	Cleaver Scientific Ltd. UK	Camera for Agarose gel and Western blot- BLC UV to Blue light converter- Visible light converter, Size 30.5x33cm- 72mm Safe Stain Filter for gelIPRO/chemiPRO- RO- ChemiPRO RGB & IR Lightng Module	Camera for Agarose gel and Western blot
96-well microplate reader	Thermo Fisher Scientific- Finland	Model: 1510-03956, wavelengths from 200 to 1000nm	To measure chemical, biological or physical reactions, properties and analytes within the well of a microplate
Freeze-dryer	ABFREEZ INSTRUMENTS GROUP CO, CHINA	Dry chamber size (D*H): ?260x 465MM.Total shelf area: 0.12 M2; shelf size(MM):	To remove a solvent (usually water) from dissolved or dispersed solids

			<p>?200*4PCS; shelf space height (MM): 70 Shelf number 4 PCS; trays number: 4 PCS.Vial load capacity: ?12MM: 920 PCS; ?16MM: 480 PCS; ?22MM: 260 PCS.Sample load capacity: 1. 2 Lflask: 8 PCS; Dry rack.</p>	
	Gel electrophoresis	BIORAD-US	Horizontal system 15*15cm tray, with casting gates, model 1704402	To separate mixtures of DNA, RNA, or proteins according to molecular size
Molecular Biology Lab	PCR thermal cycler unit	Cleaver Scientific Ltd. UK	Compatible with 96-well plates, 0.2ml tubes and tube strips Protocol optimization selectable from 1 to 24°C across the entire temperature control range from 4-99°C Precision temperature control increases both speed and efficiency	Amplifies the DNA
	Q-PCR machine	BIORAD-US	Model CFX96,C1000 Touch,Maximum ramp rate,	Amplifies and detects DNA

°C/sec; 5,
 Average ramp
 rate, °C/sec;
 3, Lid, °C Heats
 up to 105,
 Temperature
 range: 0–100
 °C, Range of excitation/emission
 wavelengths,;
 450–730 nm,
 Operating systems: Windows 7,
 Windows 8,
 Windows 10

Immunofluorescence and
 fluorescence
 Microscopy

OPTIKA- ITALY Model:
 B-510BF,
 Head:
 Trinocular
 (fixed 50/50),
 30° inclined,
 360° rotating.
 Interpupillary
 distance:
 Adjustable
 between 50
 and 75 mm. Objectives:– IOS
 W-PLAN
 4x/0.10– IOS W-
 PLAN
 10x/0.25– IOS
 W-PLAN
 40x/0.65– IOS
 W-PLAN
 100x/1.25 (Oil).
 Condenser:
 Swing-out N.A.
 0.2/0.9, with iris
 diaphragm,
 focusable and

Visualizing fine
 detail of an
 object

Synergy H1-
 Hybrid
 multimode
 reader

Agilent
 BioTeck. USA

UV-Vis absorbance
 Fluorescence
 chemical,
 biological or
 physical
 reactions,

Cell Culture Lab	Inverted Microscope	OPTIKA- ITALY Model: IM-3.Ob	<p>Microplate properties and types: 6- to analytes within 384-well plates the well of a and Take3 microplate</p> <p>Micro-Volume Plates. Read methods: Endpoint, kinetic, spectral scanning, well area scanning</p>
			<p>Observation mode: Brightfield, phase contrast. Head: Trinocular (2-position 100/0, 50/50), 45° inclined. Objectives: IOS LWD W-PLAN PH 10x/0.25 IOS LWD W-PLAN PH 20x/0.40 IOS LWD W-PLAN PH 40x/0.65</p>
	Centrifuge	Eppendorf	<p>5810R, 230 V/50-60Hz, rotor A-4-62 and 15/50ml adapters Max. capacity of conical tubes per rotor: 36*15 ml/16*50ml with: deep well plate rotor, and microtube rotor with aerosol-tight QuickLock rotor lid</p>
		Mini Centrifuge Ohaus. USA	<p>100-240V, FC5306 Angle Separate particles from</p>

		rotor 4*8 tube PCR strips, Angle rotor 8*1.5/2ml, Adapters for 0.2ml tubes (8pcs). Adapters for 0.5ml (8 pcs)	the solvent using high speed rotation
Cell culture incubator	Eppendorf, Hamburg, Germany	C170i, non- segmented inner door, handle right side, water and humidity monitoring package, 220-240 N/50-60 Hz, 180 °C High temperature disinfection, capacity 170 L (6.0 ft ³)	Maintain a constant temperature and high humidity for the growth of tissue culture cells under a CO ₂ atmosphere.
Biosafety cabinet (Class II, Type A2)	LABCONCO, U.S.	Catalog # 302381151	provide personnel, product and <ul style="list-style-type: none"> • Nominal environmental Width: 3 protection from ' hazardous • Protecti particulates on Type such as agents : Product that require t and Pe Biosafety Level rsonnel 1, 2 or 3 • Nominal containment. Sash O Other pening: appropriate 8" (20 applications cm) include work • Built In with Options: antineoplastic UV drugs, genetic Light, material, Valves asbestos and (Air, Va additional

cuum, substances that
 etc.), generate
 Cord, hazardous
 Cable & airborne
 Tubing particulates
 Portal

- Region: Internati onal
- Base St and: Inc luded
- Power Cord & Plug: Br itish (UK), 230V

Molecular Modelling Lab	Database building and designing, ligand and protein preperation and visualization using MOE software	Chemical Computing Group	MOE2020	To design, build and filter large ligand libraries, prepare and visualize proteins and ligand-protein interactions.
	Virtual screening and docking using Maestro software	Schrödinger	Maestro 2021-1	To prepare and assess the druggability of proteins, prepare large ligand libraries for virtual screening and molecular docking.
	MD simulation using Amber software	AmberTools	AMBER18	To build and visualize 3D dynamic models of biomolecules in environmental, biological and engineered systems.

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