THE AGA KHAN UNIVERSITY

Dashboard of Projects and Facility

Juma Research Lab (Ground Floor)

2022

Facility Lay out: Juma Research Lab, Ground Floor

BSL-2

- Open Hall
  Bench Spaces n=45
- Tissue Culture Room
  Workstations n=2
- Genomics Room
- Bio informatics Room
  Data analysis & computational space n=3
- ELISA Room
- Media Preparation Room
- *Equipment Holding Area

BSL-3

- Virology Room
  Workstations n=3
- Bacteriology Room
  Workstations n=3
- TB Room
  Workstations n=3
- Animal Holding Room**
- Animal Surgery Room**
- Autoclave Bay

*Autoclave, ULT Freezers, Liquid Nitrogen Tanks, Water Purification Systems, Thermal Cyclers
** Due for renovation

Bench space occupancy - BSL-2-JRL 2022

Department	Benches	Projects
Paediatrics	19	14
Community Health Sciences	4	3
Surgery	4	5
Pathology and Laboratory Medicine	2	3
Pathology and Laboratory Medicine + Biological & Biomedical Sciences	2	2
Biological and Biomedical Sciences	2	2
Available / Reserved	7	-
Core Equipment & Staff + Genomics	5	-
Total	45	29

Cost recovery from funded benches = 70%

Bench no. A-1

PI of the project

Dr. Sarah Saleem
Professor Community Health Sciences, The Aga Khan University, Pakistan

Jan, 2021 – Oct, 2022

COVID-19 prevalence during pregnancy and pregnancy outcomes in 8 low and middle-income sites: A Global Network Study

Core Equipment

- BSL-3,-Virology
- Bio Safety Cabinets
- Centrifuges
- Desktop PCs
- Freezer -20C

Grant purchased equipment

NONE

Bench no. A-2

PI of the project

Dr. Sarah Saleem
Professor Community Health Sciences, The Aga Khan University, Pakistan

Aug, 2020 - Sep, 2022

Prevention of maternal and neonatal death/infections with a single oral dose of azithromycin in women in labor (in low- and middle-income countries): a randomized controlled trial

Core Equipment

- Thermal Cycler
- Real Time PCR
- Centrifuges
- DNA Electrophoresis
- Next generation Sequencer (NGS)
- Bio Safety Cabinet
- Desktop PCs

Grant purchased equipment

NONE

Bench no. A-5

PI of the project

Dr. Farah Qamar

Associate Professor

Paediatrics & Child Health, The Aga Khan University, Pakistan

Aug, 2016 – March, 2022

Surveillance for Enteric Fever in Asia (SEAP) Phase II

Core Equipment

- Refrigerated –Non refrigerated Centrifuges
- Water Bath
- Vortex
- Under counter & Walk- In Fridge
- pH meter
- Thermal Cyclers
- Real Time PCRs
- Desktop PCs

Grant purchased equipment

NONE

Bench no. A-6

PI of the Project

Dr. Fyezah Jehan
Associate Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

April, 2021– Aug, 2023

MOMI Bio repository Platform: AMANHI Pakistan

Core Equipment

- BSL-3- Bacteriology/Biosafety Cabinet
- Refrigerated Centrifuge
- Under counter & Walk- In Fridge
- Ultra Low Temp. Freezers
- Vortex
- Water Bath
- Thermal Cycler
- Desktop PC

Grant purchased equipment

- Tapestation
- Magpix Lumines
- Bioplex system 200
- Extractor magNApure

Bench no. A-7

PI of the project

Dr. S. Asad Ali
Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

Feb,2019 – June ,2021

Interaction of gut micro- biome with intestinal epithelium in children with suspected risk of environmental Enteropathy (Ph.D. Project)

Core Equipment

- Refrigerated -Non Refrigerated Centrifuges
- Water Bath
- Vortex
- Under counter & Walk- In Fridge
- pH meter
- Thermal Cyclers
- Real Time PCRs
- Desktop PCs

Grant purchased equipment

- Quant studio, 7 flex
- BD- FACS
- Water Bath

Bench no. A-8

PI of the project

Dr. S. Asad Ali
Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

Aug, 2018 -Dec, 2022

Impact Assessment of Rotavirus Vaccine Introduction in Pakistan's Routine Immunization Program

Core Equipment

- BSL-3- Virology
- Refrigerated Centrifuges
- Heat Block
- Water Bath
- Vortex
- Under counter & Walk- In Fridge
- Ultra Low Temp. Freezers
- Desktop PC

Grant purchased equipment

Gel Documentation System

Bench no. A-9

PI of the project
Dr. Tashfeen Ahmad
Assistant Professor
Department of Surgery,
The Aga Khan University, Pakistan

March, 2019 - June, 2022

Stem cells from human dental pulp for tissue engineering of tooth defects: an in vitro model

Core Equipment

Tissue Culture Room	Carbon dioxide Incubator
Biosafety Cabinets	Inverted Microscope
Refrigerated and Non Centrifuges	Fluorescence Microscope
Water Bath	Liquid Nitrogen Tank
Vortex	Desktop PC
	Ultra Low Temp. Freezers

Grant purchased equipment

NONE

Bench no. A- 11 & B-4

PI of the project

Dr. Sarah Saleem
Professor Community Health Sciences, The Aga Khan University, Pakistan

Feb, 2021 – Dec, 2022

A prospective cohort study investigating maternal, pregnancy and neonatal outcomes for women and neonates infected with SARSCoV-2 in Pakistan

Core Equipment

- Bio Safety Cabinet
- Desktop PCs

Grant purchased equipment

- **ELISA reader and Washer**

Bench no. A-12

PI of the project

Dr. Ather Enam
Professor
Department of Surgery,
The Aga Khan University, Pakistan

May, 2020 – May, 2022

Identifying gene mutations in low and high grade gliomas's patients of tertiary care hospital.

Core Equipment

PCR	Microtome
Refrigerated & Non Refrigerated Centrifuges	IHC bench
Water Bath	Microscope
Vortex	Fume Hood
Under counter & Walk- In Fridge	Desktop PC
	Ultra Low Temp. Freezers

Grant purchased equipment

Semi Automated Microtome

Bench no. A-13

PI of the project

Dr. Kulsoom Ghias
Associate Professor
Biological and Biomedical Sciences,
The Aga Khan University, Pakistan

June, 2018 – March, 2022

Role of neutrophils in progression of head and neck squamous cell carcinoma

Core Equipment

- BSL-3- Bacteriology
- Tissue Culture Room
- Biosafety Cabinets
- Refrigerated Centrifuges
- Non Refrigerated Centrifuge
- Water Bath
- Carbon dioxide Incubator
- Inverted Microscope
- Fluorescence Microscope
- Liquid Nitrogen Tank
- Desktop PC
- Ultra Low Temp. Freezers

Grant purchased equipment

NONE

Bench no. A-14

PI of the project

Dr. Najeeha Iqbal
Associate Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

Nov, 2021 – November, 2023

The University of Washington Arboviral Research Center – Supplementary Study

Core Equipment

- BSL-3,Virology /Biosafety Cabinets
- Refrigerated Centrifuges
- Non Refrigerated Centrifuge
- Water Bath
- Vortex
- Under counter & Walk- In Fridge
- ULT -80C
- Real Time PCRs
- Desktop PCs

Grant purchased equipment

NONE

Bench no. A-15

PI of the project

Dr. Najeeha Iqbal
Associate Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

Feb, 2021 – April, 2025
The University of Washington Arboviral Research Center .

Core Equipment

- BSL-3,Virology /Biosafety Cabinets
- Refrigerated Centrifuges
- Non Refrigerated Centrifuge
- Water Bath
- Vortex
- Under counter & Walk- In Fridge
- ULT -80C
- Real Time PCRs
- Desktop PCs

Grant purchased equipment

NONE

Bench no. A-16

PI of the project

Dr. Najeeha Iqbal
Associate Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

Oct, 2020– Oct, 2021*

Immune parameter analyses in COVID-19 patients with mild, moderate and severe disease

Feb, 2021 – April, 2025
The University of Washington Arboviral Research Center

Core Equipment

- BSL-3
- Refrigerated, Non Refrigerated Centrifuge
- Water Bath
- Vortex
- Under counter & Walk- In Fridge
- pH meter
- Thermal Cyclers
- Desktop PCs
- BSL-3 Bacteriology

Grant purchased equipment

NONE

*= extension in process

Bench no. A-17 & A18

PI of the project

Dr. Farah Qamar
Associate Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

April, 2021- June, 2024

Surveillance for enteric pathogens in sewage in Karachi (Karachi Enteric Pathogens surveillance: KEPS)

Core Equipment

- BSL-3-Bacteriology/Biosafety Cabinet
- Refrigerated Centrifuges
- Non Refrigerated Centrifuge
- Water Bath
- Vortex
- Under counter & Walk- In Fridge
- pH meter
- Thermal Cyclers
- Real Time PCRs
- Desktop PCs

Grant purchased equipment

- Refrigerated Centrifuge
- Shaking Incubator

Bench no. A-19 & A25

PI of the project

Dr. Farah Qamar
Associate Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

Oct, 2019 – Oct, 2021*

Sero-epidemiology and environmental surveillance (SEES) in SEAP sites

Core Equipment

- BSL-3-Bacteriology
- Refrigerated Centrifuges
- Non Refrigerated Centrifuge
- Water Bath
- Vortex
- Under counter & Walk- In Fridge
- pH meter
- Thermal Cyclers
- Real Time PCRs
- Desktop PCs

Grant purchased equipment

- ELISA- reader
- ELISA-washer
- Shaker

*= extension in process

Bench no. A-21

PI of the project

Dr. S. Hani Abidi
Associate Professor
Biological & Biomedical Sciences,
The Aga Khan University, Pakistan

Oct,2020- Dec, 2021*

Essential tools for protective immunity to SARS-CoV-2: IgG identification and virus neutralization assays for COVID-19.Assessment of virus neutralization ability of serum from COVID-19 infected patients.

Core Equipment

- BSL-3 Virology Room/ Biosafety Cabinet
- Refrigerated Centrifuges
- Ultra Low Temp. Freezers
- Vortex
- Microscope
- Carbon dioxide Incubator

Grant purchased equipment

NONE

*= On hold

Bench no. A-22

PI of the project

Dr. Zahra Hasan
Professor
Pathology & Lab Medicine, The Aga Khan University, Pakistan

Aug, 2020 – Feb, 2022

Phylo- and immuno-dynamics of SARS-CoV-2 infection in Pakistan: relating COVID 19 disease severity with viral diversity.

April ,2021 – March, 2022

Identification of SARS-CoV-2 variant strains in Karachi, Sindh

Core Equipment

- BSL-3 Virology Room
- Refrigerated Centrifuge
- Under counter & Walk- In Fridge
- Ultra Low Temp. Freezers
- Vortex
- Water Bath
- Thermal Cycler
- Gel Documentation System
- Desktop PC
- MiSeq. NGS

Grant purchased equipment

NONE

Bench no. A-23

PI of the project
Dr. Zahra Hasan
Professor
Pathology & Lab Medicine, The Aga Khan University, Pakistan
(Project Lead)

Dec, 2019 - Ongoing

Dedicated Bench space for Genomics wet work

Core Equipment

- NGS rooms
- Refrigerated Centrifuge
- Under counter & Walk- In Fridge
- Ultra Low Temp. Freezers
- Vortex
- Water Bath
- Thermal Cycler
- Gel Documentation System
- Desktop PC

NGS-equipment

- Illumina MiSeq Next Generation Sequencer
- Fragment Analyzer
- Veriti 96-Well Thermal Cycler
- Palm Micro centrifuge
- Vortex
- Magnetic Stand
- Pharmacy Refrigerator
- Qubit with DNA kit
- Micro plate Shaker
- Freezer -20C
- Specific High Through-put PC
- Desktop PCs
- Seagate 10TB Backup Plus Hub Drive
- 1KVA UPS & UPS 650V

Bench no. A-24

PI of the project
Dr. Rumina Hasan
Professor
Pathology & Lab Medicine, The Aga Khan University, Pakistan

March, 2020 – May, 2021

Exploring the transcriptomics of Bedaquiline resistant M. tuberculosis isolates (Ph.D. Project)

Core Equipment

- TB Lab, BSL 3
- Under counter & Walk- In Fridge
- Ultra Low Temp. Freezers
- Vortex
- Biosafety Cabinets- BSL3
- Centrifuges
- 37°C Incubator
- Carbon dioxide Incubator

Grant purchased equipment

NONE

Bench no. A-26

PI of the project

Dr. Farah Qamar

Associate Professor

Paediatrics & Child Health, The Aga Khan University, Pakistan

July, 2019 – Mach, 2022

Frequency of typhoid carriers in patients undergoing cholecystectomy for gall bladder

Core Equipment

- Refrigerated Centrifuges
- Non Refrigerated Centrifuge
- Water Bath
- Vortex
- Under counter & Walk- In Fridge
- pH meter
- Thermal Cyclers
- Real Time PCRs
- Desktop PCs

Grant purchased equipment

NONE

Bench no. A-27 & B-15

PI of the project

Dr. Farah Qamar

Associate Professor

Paediatrics & Child Health, The Aga Khan University, Pakistan

Jan, 2021– July, 2023

Assessing introduction and impact of TCV into routine immunization in Gavi-eligible African and Asian countries

Core Equipment

- Refrigerated Centrifuges
- Non Refrigerated Centrifuge
- Water Bath
- Vortex
- Under counter & Walk- In Fridge
- pH meter
- Thermal Cyclers
- Real Time PCRs
- Desktop PCs

Grant purchased equipment

NONE

Bench no. A-29

PI of the project

Dr. Syed Adnan
Assistant Professor
Department of Surgery
The Aga Khan University, Pakistan

May, 2020 – May, 2022

Frequency of p53 Gene mutation in oral squamous cell carcinoma (OSCC). A cross sectional study

April, 2019 – Sept, 2021

Correlation of molecular markers expression and overall survival in pancreatic adeno carcinoma patients (Ph.D. Project)

Core Equipment

Thermal Cycler	Vortex
Microtome	Under counter & Walk- In Fridge
Refrigerated Centrifuges	Ultra Low Temp. Freezers
Non Refrigerated Centrifuge	Microscope
Water Bath	Desktop PC

Grant purchased equipment

NONE

Bench no. A-30

PI of the project

Dr. Yuma Adnan
Senior Instructor
Department of Surgery
The Aga Khan University, Pakistan

Sep, 2021 – Sept, 2023

An investigation of hormonal and growth receptor expression in juvenile nasopharyngeal angiofibroma

Core Equipment

- Thermal Cycler
- Microtome
- Refrigerated Centrifuges
- Non Refrigerated Centrifuge
- Water Bath
- Vortex
- Under counter & Walk- In Fridge
- Ultra Low Temp. Freezers
- Microscope
- Desktop PC

Grant purchased equipment

NONE

Bench no. B-5

PI of the project

Dr. Fareena Bilwani
Assistant Professor
Biological & Biomedical Sciences,
The Aga Khan University, Pakistan

May, 2018 – June, 2022

Characterizing determinants of acute myeloid leukemia resistance to ex-vivo expanded allogeneic natural cell-mediated killing

Core Equipment

- Tissue Culture Room
- BSL-3 Bacteriology
- Refrigerated Centrifuges
- Non Refrigerated Centrifuge
- Water Bath
- Vortex
- Carbon dioxide Incubator
- Inverted Microscope
- Fluorescence Microscope
- Liquid Nitrogen Tank
- Desktop PC
- Ultra Low Temp. Freezers
- Under counter & Walk- In Fridge

Grant purchased equipment

NONE

Bench no. B-7

PI of the project
Dr. Kulsoom Ghias
Associate Professor Biological and Biomedical Sciences,
The Aga Khan University, Pakistan

PI of the project
Dr. Rumina Hasan
Professor
Pathology & Lab Medicine, The Aga Khan University, Pakistan

Jan, 2021 – March, 2022

Establishing COVID-19 Bio repository at AKU.

Core Equipment

- BSL-3 Virology and Bacteriology
- Refrigerated Centrifuges
- Desktop PC
- Walk-in Fridge and Freezer
- Under counter fridge

Grant purchased equipment

ULT freezer in bacteriology BSL-3

Bench no. B-9

PI of the project

Dr. Imran Nisar
Assistant Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

April, 2021- Mar, 2022

Wastewater surveillance for SARS-CoV-2 in district east, Karachi

Core Equipment

- BSL-3 -Virology Room/Biosafety Cabinet
- Refrigerated Centrifuges
- Under counter & Walk- In Fridge
- Shaker
- Thermal Cyclers
- Non Refrigerated Centrifuge
- Desktop PCs
- Ultra Low Temp. Freezer -80C

Grant purchased equipment

- UV/PCR Enclosure
- ABI Realtime PCR

Bench no. B-10

PI of the project

Dr. Imran Nisar
Assistant Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

Aug, 2020- Dec, 2021

COVID-19 HH transmission study in Pakistan

Core Equipment

- BSL-3 -Virology Room/Biosafety cabinet
- Refrigerated Centrifuges
- Under counter & Walk- In Fridge
- pH meter
- Thermal Cyclers
- Non Refrigerated Centrifuge
- Desktop PCs
- Ultra Low Temp. Freezers
- Gel Electrophoresis assemblies

Grant purchased equipment

- Biosafety Cabinet
- Next Generation Sequencer
- Water Bath
- Vortex
- Liquid Nitrogen Tank

Bench no. B-11 & B-12

PI of the project

Dr. S. Asad Ali
Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

July, 2021- Oct, 2022

Capsule endomicroscopy for small intestine implementation AKU

Core Equipment

- BSL-3- Bacteriology/Biosafety Cabinets
- Under counter fridge
- Heat block
- Thermal Cyclers
- Real Time PCRs
- Desktop PC
- Refrigerated Centrifuges
- Non Refrigerated Centrifuge
- Water Bath
- Vortex
- Walk- In Fridge

Grant purchased equipment

Stomacher

Bench no. B-13

PI of the project

Dr. Fyezah Jehan
Associate Professor
Paediatrics & Child Health, The Aga Khan University, Pakistan

Feb, 2020 – Oct, 2022

Nutritional support for lactating women and azithromycin for infants to improve growth outcomes in the peri-urban slums of Karachi, Pakistan – a Randomized Controlled Trial

Core Equipment

- BSL-3- Bacteriology
- Refrigerated Centrifuge
- Under counter & Walk- In Fridge
- Ultra Low Temp. Freezers
- Vortex
- Water Bath
- Thermal Cycler
- Gel Documentation System
- Desktop PC

Grant purchased equipment

NONE

BSL-2:Tissue Culture Room

PI of the project
1-Dr. Kulsoom Ghias(BBS)
2-Dr. Fareena Bilwani (BBS)
3-Dr. Tashfeen Ahmad (Surgery)

Titles of Ongoing Projects

1-Role of neutrophils in progression of head and neck squamous cell carcinoma

2- Characterizing determinants of acute myeloid leukemia resistance to ex-vivo expanded allogeneic natural cell-mediated killing

3-Stem cells from human dental pulp for tissue engineering of tooth defects: an in vitro model

Core Equipment

- Biosafety Cabinets
- Inverted Microscope with fluorescence and Camera.
- CO_2 Incubators(2 stacked)
- Refrigerator
- Centrifuges (Refrigerated with safety caps)
- Centrifuge (Non-refrigerated)
- Water bath

Grant purchased equipment

NONE

BSL-2: NGS and Bioinformatics Rooms

PI of the project
1-Dr. Zahra Hasan (PLM)
2- Dr. Erum Khan (PLM)
3-Dr. Najeeha Iqbal (Paeds)
4- Dr. Imran Nisar (Paeds)

Core equipment

Illumina MiSeq Next Generation Sequencer	Qubit with DNA kit
Fragment Analyzer	Micro plate Shaker
Veriti 96-Well Thermal Cycler	Freezer -20C
Palm Micro centrifuge	Specific High Through-put PC
Vortex	Desktop PCs
Magnetic Stand	Seagate 10TB Backup Plus Hub Drive
Pharmacy Refrigerator	1KVA UPS & UPS 650V

List of Future Projects

1-SARS-CoV-2 strains from Pakistan

2-Capacity building for diagnosing and defining the epidemiology of Crimean Congo Hemorrhagic Fever Virus in Pakistan

3a-The University of Washington Arboviral Research Center
3b.-Metagenomics for identifying novel pathogens in childhood illness

4-Global Pneumococcal Sequencing consortium 2.0 (GPS 2.)

Grant purchased equipment

NONE

BSL-2: ELISA Room

Services and equipment shifted to BSL 2 due to maintenance issues

BSL-2: Media Preparation Room

PI of the project

1- Dr. Fyezah Jehan (Paeds)

2-Dr. Farah Qamar (Paeds)

Core equipment

NONE

On going Projects

1-Optimizing place of treatment and antibiotic regimens for young infants presenting with signs of possible serious bacterial infection

2a- Introduction and impact of TCV into routine immunization in Pakistan
2b- Assessing introduction and impact of TCV into routine immunization in Gavi-eligible African and Asian countries

Grant purchased equipment

ELISA reader (SOFTMAX PRO ABS-PLUS

Weighing Balance

Desktop PC (respective software)

BSL-2: COVID related projects

PI of the project
1-Dr. Zahra Hasan(PLM)
2-Dr. Imran Nisar Iqbal (Paeds)
3-Dr. Najeeha Iqbal Iqbal(Paeds) Iqbal(Paeds)
4-Dr. Sarah Saleem (CHS)
5- Dr. S. Hani Abidi (BBS)
6- Dr. Kulsoom Ghias (BBS)-
Dr. Rumina Hasan (PLM)

Core Equipment

- Biosafety Cabinets
- ULT Freezer Upright
- Refrigerated Centrifuge
- Heat Block
- Vortex
- Water Bath

Grant purchased equipment

NONE

Titles of Ongoing Projects

1a- Phylo- and immuno- dynamics of SARS-CoV-2 infection in Pakistan: relating COVID 19 disease severity in with viral diversity
1b-Identification of SARS-CoV-2 variant strains in Karachi, Sindh

2a-COVID-19 HH transmission study in Pakistan
2b-Wastewater surveillance for SARS-CoV-2 in district east, Karachi

3- Immune parameter analyses in COVID-19 patients with mild, moderate and severe

4a-COVID-19 prevalence during pregnancy and pregnancy outcomes in 8 low and middle-income sites: A Global Network Study
4b- Investigating maternal, pregnancy and neonatal outcomes for women and neonates infected with SARSCoV-2

5- Assessment of virus neutralization ability of serum from COVID-19 infected patients

6- COVID-19 Bio repository

BSL-3: COVID related projects (Virology Room)

PI of the project
1-Dr. Zahra Hasan(PLM)
2-Dr. Imran Nisar Iqbal (Paeds)
3-Dr. Najeeha Iqbal Iqbal(Paeds) Iqbal(Paeds)
4-Dr. Sarah Saleem (CHS)
5- Dr. S. Hani Abidi (BBS)
6- Dr. Kulsoom Ghias (BBS)-
Dr. Rumina Hasan (PLM)

Core Equipment

- Biosafety Cabinets
- ULT Freezer Upright
- CO_2 incubator
- Inverted microscope
- Refrigerated Centrifuge
- Non-refrigerated Centrifuge
- Vortex
- Water Bath

Grant purchased equipment

NONE

Titles of Ongoing Projects

1a- Phylo- and immuno- dynamics of SARS-CoV-2 infection in Pakistan: relating COVID 19 disease severity in with viral diversity
1b-Identification of SARS-CoV-2 variant strains in Karachi, Sindh

2a-COVID-19 HH transmission study in Pakistan
2b-Wastewater surveillance for SARS-CoV-2 in district east, Karachi

3a- Immune parameter analyses in COVID-19 patients with mild, moderate and severe disease
3b-The University of Washington Arboviral Research Center

4a-COVID-19 prevalence during pregnancy and pregnancy outcomes in 8 low and middle-income sites: A Global Network Study
4b- Investigating maternal, pregnancy and neonatal outcomes for women and neonates infected with SARSCoV-2

5- Assessment of virus neutralization ability of serum from COVID-19 infected patients

6- COVID-19 Bio repository

*Room designated for COVID related projects for sample processing and storage.

BSL-3:COVID -19 Biorepository (Virology room)

PI of the project

Dr. Rumina Hasan,
Chair
Dr. Kulsoom Ghias,
Co -Chair

Persons Involved

1- Ms. Huma Saleem, Research Associate

2-Ms. Basma Aziz, Research Associate

Core Equipment

- Biosafety Cabinets
- Water Bath
- Refrigerated Centrifuge
- Heat Block
- Vortex

Grant purchased equipment

- **ULT Freezer**
- **Centrifuge (in procurement)**

Designated space provided for biorepository in Virology room BSL-3

BSL-3:Sample processing for suspected COVID patients (Bacteriology Room

PI of the project

1- Dr. Kulsoom Ghias (BBS)
2-Dr. Asad Ali (Paeds)
3-Dr. Fyezah Jehan (Paeds)
4-Dr. Farah Naz (Paeds)

5- Dr. Fareena Bilwani (BBS)
6-Dr. Muhammad Zuhair Yusuf (BBS)
7-Dr. Sarah Saleem (CHS)
8-Dr. Farah Naz (Paeds)

Core Equipment

- Biosafety Cabinets
- ULT Freezer (under counter)
- Refrigerated Centrifuge
- Heat Block
- Vortex

Grant purchased equipment

- **ULT Freezer (Bio-repository Grant)**
- ***Extractor (Project MOMI)**

Titles of Ongoing Projects

1-Head and neck squamous cell carcinoma
2a-Impact Assessment of Rotavirus Vaccine
2b-Interaction of gut micro- biome with intestinal epithelium in children with suspected risk of environmental Enteropathy (Ph.D. Project)
2c-Capsule endomicroscopy for small intestine implementation AKU
3a-Nutritional support for pregnant and lactating women
3b-*MOMI Bio repository Platform: AMANHI Pakistan
4- Sero-Epidemiology and Environmental Surveillance (SEES) - in SEAP Sites
5-Characterizing determinants of acute myeloid leukemia resistance to ex-vivo expanded allogeneic natural cell-mediated killing
6- Role of prostacyclin analogue in curbing type 2 diabetes mellitus pathogenesis
7-Prevention of maternal and neonatal death/infections with a single oral dose of azithromycin in women in labor (in low- and middle-income countries): a randomized controlled trial
8-Surveillance for enteric pathogens in sewage in Karachi (Karachi Enteric Pathogens surveillance: KEPS)

Room designated to all high risk samples (sputum, respiratory, gastrointestinal, urinary) processing using Biosafety Cabinets.

BSL-3:TB related projects (TB Room)

PI of the project

1-Dr. Rumina Hasan (PLM)

Titles of Ongoing Project(s)

1-Exploring the transcriptomics of Bedaquiline resistant M. tuberculosis isolates (Ph.D. Project)

Core Equipment

- TB Lab, BSL 3
- Under counter & Walk- In Fridge
- Ultra Low Temp. Freezer
- Vortex
- Biosafety Cabinets- BSL3
- Centrifuges
- Inverted Microscope
- Carbon dioxide Incubator

Grant purchased equipment

NONE

s.no.	ULT Freezers	Installed/ Shifted	Location	Ownership	Shelve space	Type of Samples	User department
1.	C41764 (Upright)	2018	BSL 2	Core-1	100% Full	Blood, Sera Protein lysate , extracted RNA, Media &H9	Biological and Biomedical Sciences, Pathology & Lab Medicine, Surgery
2.	C28372 (Upright)	2014	BSL 2	Core-2	85% full/15% free	Culture supernatants, Urine samples, Plasma, DNA, RNA, TNA, Sera, Dental Pulp, Tri-reagent	Surgery, Paediatrics, Pathology & Lab Medicine
3.	C42458 (Upright)	2018	BSL 3	Core-3	25% full/ 90% free	COVID samples (Sera, Blood, Nasal Swabs)	Paediatrics and Pathology & Lab Medicine,
4	C41762 (Upright)	2021	BSL 3	BBS (COVD Bio rep)	5% full, 95% free	COVID samples (Sera, Blood, Nasal Swabs)	Biological and Biomedical Sciences & Pathology & Lab Medicine
5.	C30707 (Upright)	2008	BSL 3	CHS-1	100% full	Sera, Urine, buffy coat, plasma	Community Health Sciences
6.	C29133 (Upright)	2012	BSL 2	CHS-2	100% full	Sera, Urine, buffy coat, plasma	Community Health Sciences
7	C21650 (Upright)	2004	BSL 2	CHS-3	100% full	Sera, placental tissue, buffy coat, plasma	Community Health Sciences

Broader Research Themes

S. #	Themes
1	Maternal and Child Health
2	Cancer and Stem cell research
3	Virology & Immunology (COVID -19 related research)
4	Infectious Diseases, Vaccines and Antimicrobial Resistance
5	Environmental Enteric Diseases

THE END