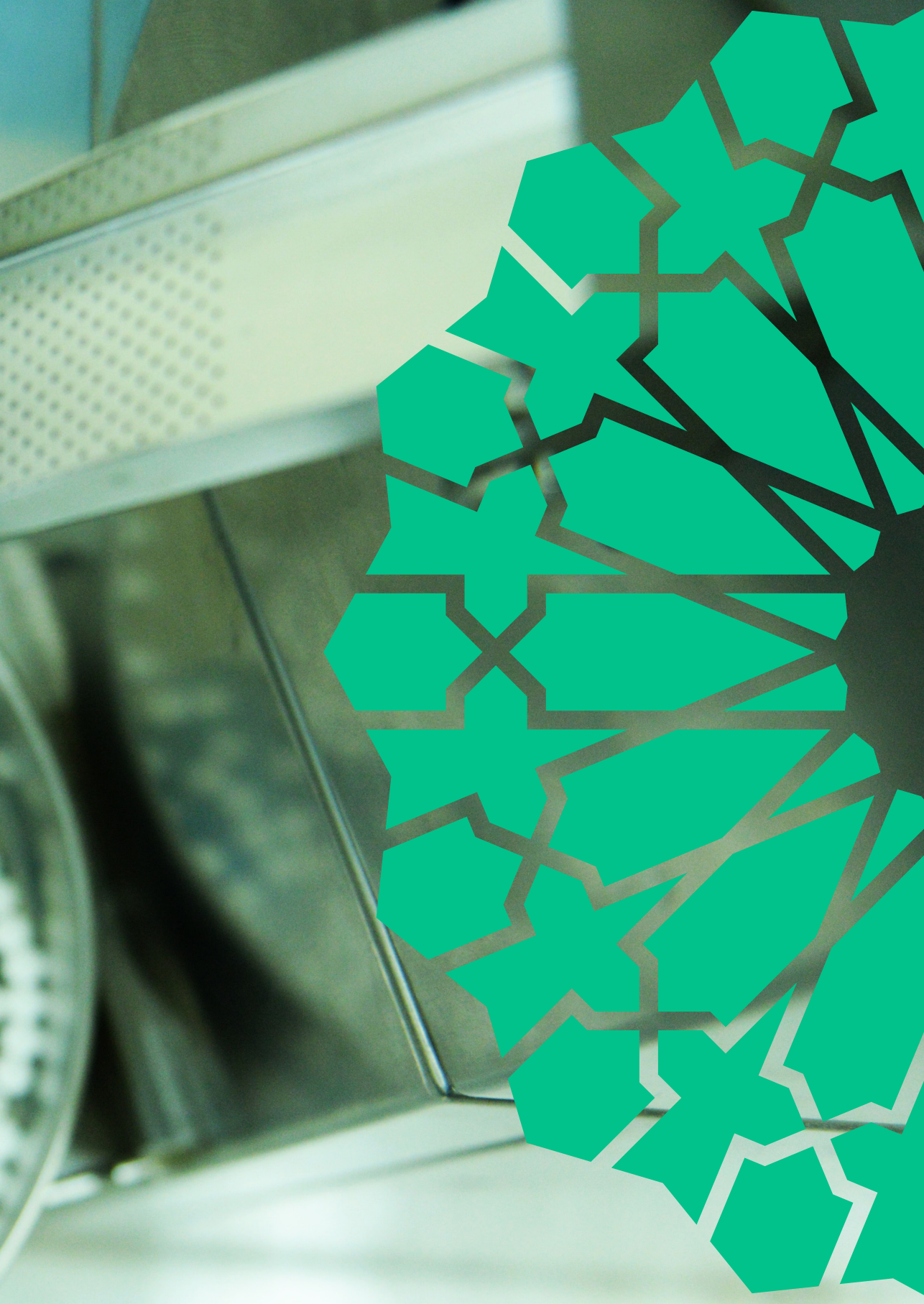

COLLEGE OF
PHARMACY



PHARMACY PRACTICE & PHARMACOTHERAPEUTICS DEPARTMENT

Lab Name	Location	Person in Charge
Pharmacology Lab	M32-G025	- Farman Khan - Chefaa Al Hourani

Pharmacy Practice & Pharmacotherapeutics Lab Staff

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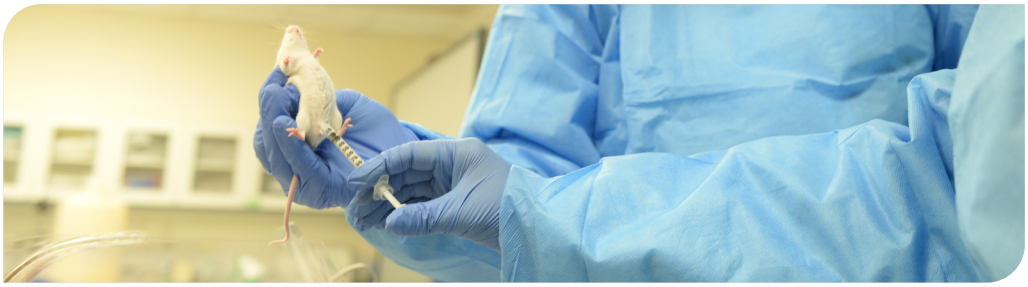
PHARMACOLOGY LABORATORIES [PHARMACOLOGY (IA)]



Location	Lab Staff in Charge	Contacts
M32-G025	Farman Khan	065057431
	Chefaa Al Hourani	065057435

INTRODUCTION

Pharmacology of drugs, their mechanisms of action; therapeutic uses, adverse effects and drug interaction are covered in theoretical classes. However, to appreciate such principles and the importance of testing drugs for their effects, practical classes aim to illustrate such effects on isolated and whole animal preparations. In this laboratory classes, students learn how to handle animals, how to use syringes & adjust the doses and learn the pharmacokinetic principles. In addition, students investigate some of the responses of guinea pig ileum preparation to several drugs, ranging from dose–response, compare between different agonists & studies to demonstration of selective antagonism. In addition, they learn about effects of drugs on Rabbits eye to understand autonomic pharmacology. The sympathetic and parasympathetic control of pupil size diameter and how pupil diameter changes in response to a change in ambient light & how to measure IOP. Neuro-muscular Blockers and drugs effects on skeletal muscle preparations are also covered. The effect of drugs on the slow muscle fibers of Toads abdominis muscle is also examined by simulated program, how to differentiate between the spastic and flaccid paralysis by studying the Neuro-muscular Blockers effect on chick. Simulated lab programs are used to demonstrate these principals in addition to the wet lab according to availability of animals and suitable species to be used.

EQUIPMENT AND INSTRUMENTS

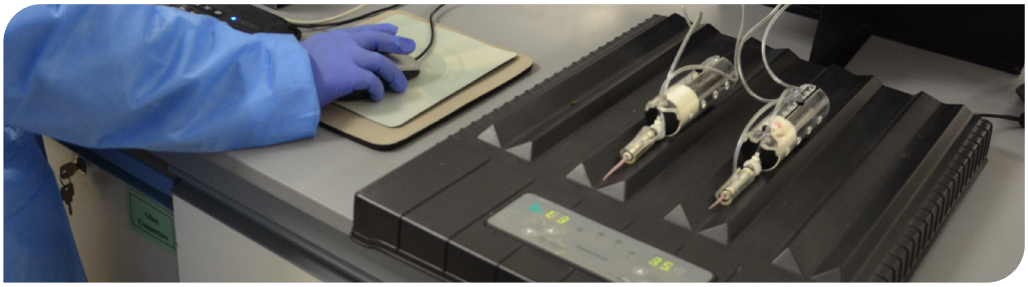
- Water Still W4000
- Electronic Balances
- Thermostatic Bath
- Microscope
- Oven UNB
- UV Lamp Bench Type

- PH Meter
- Precision Triple Beam Balance
- Centrifuges
- Refrigerator
- Chest Freeze
- Hot Plates
- Vortex Mixer
- Melting Point Apparatus
- Mettle Toddler Microbalance
- Thermo Circulator
- Rat, Mice & Rabbits Cages
- Animal Temperature Recorder
- Rat Restrainer Adjustable Length
- Rabbit Restrainer Adjustable Length
- Dissecting Set
- Harvard Apparatus Oscillographs
- Small Animal Ventilator
- Single Heated Tissue- Organ Bath
- Operator Table for Animal
- Homoeothermic Control Units for Medium & Small Animals
- Rat, Mice & Rabbits Cages
- Desiccator
- AD- Instrument

EXPERIMENTS

- Introduction to Safety Regulations
- Experimental Animals and their Methods of Handling
- Syringes Preparation & Dose Calculation
- Different Routes of Drug Administration
- Drug – Drug Interactions “Principle of Enzyme Inducers and Enzyme Inhibitors”
- Identification of Unknown Drug
- The Effect of Autonomic Drugs on Rabbit’s Eye “Pupil Size, Accommodation, Light & Corneal Reflex.”
- Guinea Pig Ileum Preparation “Dose Response Relationship, Comparison Between Different Agonist, Effect of the Agonist in the Presence of Antagonists”.
- Neuromuscular Junction Blockers & Frogs Rectus Abdominis Muscles
- Anterior Tibalis – Sciatic Nerve Preparation
- Finkleman Preparation

PHARMACOLOGY LABORATORIES [PHARMACOLOGY (IB)]



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INTRODUCTION

This course will introduce the basic concepts of Cardiovascular Pharmacology to students & will investigate aspects of muscle function and drug effects in diverse isolated tissues and whole animal preparations including:

- Cardiac Muscle Function
- Vascular Tissue (Rat Coronary Artery & Rabbit Blood Pressure). All experiments expose students to techniques including Equipment Set-up, Force Transducer Calibration, Tissue Dissection and Mounting, and Dose-response Assays and Analysis

The following experiment uses a small mammal, rabbit & albino rats to investigate the actions of various pharmacological agents on the arterial blood pressure and also the effects of drugs on the isolated rabbit heart, using a Langendorff apparatus in which the heart is perfused via its coronary arteries with oxygenated physiological solution, which keeps the cardiac muscle viable in vitro for a few hours. The student will explore the effects of various neurotransmitters and drugs on the heart. Simulated lab program & short video animation used to demonstrate these principals in addition to the wet lab according to availability of animals and suitable species to be used.

EQUIPMENT AND INSTRUMENTS

- Blood Pressure Transducer
- AD – Instrument
- Heart Mammalian Perfusion System
- CODA System
- Blood Pressure Monitor Mercury
- Harvard Apparatus Oscillographs

EXPERIMENTS

- Cardiovascular Anatomy & Physiology
- Dissection of Mice (Heart & Kidney Location)
- Electrophysiology of the Heart and ECG
- Working Heart Model
- Effects of Drugs on the Perfused Isolated Rabbits Heart – Langendorff Isolated Heart Perfusion
- Rat Blood Pressure Preparation In vivo
- Blood Coagulation

PHARMACOLOGY LABORATORIES [PHARMACOLOGY – IIA]

Location	Lab Staff in Charge	Contacts
M32-G025	Farman Khan	065057431
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INTRODUCTION

This course will introduce the basic concepts of CNS Pharmacology, including experimental Parkinsonism, Screening Analgesic of NSAID, and Differentiation between CNS Stimulants & Depressants In vivo.

How to Design Antidepressant Model Experiment? – Forced Swim Test. Local anesthetic agents and induction of physical dependence using morphine.

EQUIPMENT AND INSTRUMENTS

- Rat Restrainer Adjustable Length
- Rabbit Restrainer Adjustable Length
- VERSAMAX Analyzer
- Hot Plate Analgesia Meter Harvard
- Animals Training Wheel
- Stereotaxic Apparatus
- Animal Activity Monitor + Acer Monitor + Computer Set

EXPERIMENTS

- Experimental Parkinsonism
- Differentiation between CNS Stimulants & Depressants.
- How to Design Antidepressant Model Experiment? – Forced Swim Test.
- Opioid Analgesia in Animals, Thermal & Mechanical Methods
- Non-steroidal Anti Inflammatory Analgesics Screening Activities, Chemical & Electrical Methods
- Induction of Physical Dependence with Morphine
- Effect of Local Anesthetic Agents on Rabbits Eye