



# Biomedical science laboratories



### **IVIS Lumina XRMS In Vivo Imaging System:**

It includes IonS5, emulsion PCR, library size selector and genomic work bench server. It can do 200bp, 400bp and 600bp insert size, 60-80 million reads, 10-15 Gb data output per run of about 2 to 3hrs. It is used for microbial (bacteria, fungi), plant and human whole or partial genomics. It is used for Organelle genomes (chloroplast, mitochondria), metagenomics (soil, water, plant, animal, human), DNA methylation/mutation studies, and transcriptomics. In addition, it is used for pathogenic infections, public health, food safety and exome sequencing.



### **Individually Ventilated Cages (IVC):**

The purpose of IVC system is to provide a clean environment that is generally suitable for breeding and preservation of Specific-pathogen-free (SPF) animals. This type of environment support various animal experiments especially in the use of immunodeficiency animals.



### **Guava® easyCyte Flow Cytometry:**

Flow cytometry is a technology that is used to analyze the physical and chemical characteristics of particles in a fluid as it passes through at least one laser. Cell components are fluorescently labelled and then excited by the laser to emit light at varying wavelengths. This flow cytometry is simpler to operate than traditional sheath-fluid based instruments and are easier to maintain. They utilize small sample volumes and generate minimal waste as a result of Guava® easyCyte flow cytometers are uniquely amenable to on-demand use in the laboratory environment and have helped many scientists achieve insightful cellular analysis. Sample Handling Formats for Both Tubes and 96-Well Plates.



### **CO2 incubators:**

Cell culture incubator is designed to maintain a constant temperature and high humidity for the growth of tissue culture under a CO<sub>2</sub> atmosphere. The temperature setting is 37°C and the CO<sub>2</sub> concentration is set at 5%. This incubator has also a decontamination system that can be used from time to time to obtain a clean environment for the cells. CO<sub>2</sub> incubator is a fundamental instrument for growing cells in optimal condition.

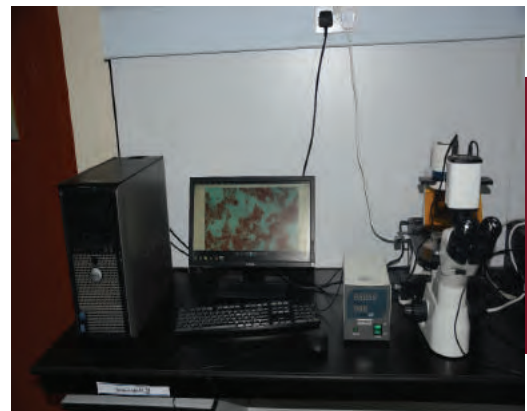


### **Class II, Type A2 Biological Safety Cabinets:**

Biological Safety Cabinets designed to protect personnel, product, and the environment from exposure to biohazards and cross contamination during routine procedures. Class II cabinet works with low to moderate risk biological agents. The existing cabinet also included UV light to keep a biosafety cabinet's interior clean when not in use.

### **Inverted and fluorescence microscope with camera:**

A fluorescence microscope is an optical microscope that uses fluorescence in addition to reflection and absorption to study properties of organic or inorganic substances.





## Supporting instruments

### Reptile cages and Bird cages:

Different types and sizes of cages used as a suitable environment of living snakes and other reptile.

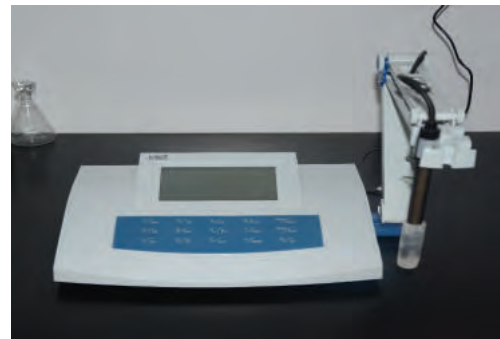


### Centrifuges with different tubes volumes:

Machine with a high speed rotating rotors that applies centrifugal force to its contents, to separate fluids of different densities or liquids from solids.

### PH meter:

is an instrument that measures the hydrogen-ion activity in water-based solutions, indicating its acidity or alkalinity. The pH meter is used in many applications ranging from laboratory experimentation to quality control.





## Supporting instruments



### Liquid nitrogen supply and storage tanks:

Liquid nitrogen is a cryogenic fluid that can cause rapid freezing on contact with living tissue and has a boiling point of  $-196^{\circ}\text{C}$ . It is used to store cells at low temperature for laboratory work.

### Venoms freeze dryer:

Freeze dryer or lyophilization or cryodesiccation is the removal of solvents from a material through the process of sublimation and the removal of bound water molecules through the process of desorption. This makes material more convenient for transport and better for long time storage.

