

أجهزة علمية متاحة بالمركز للباحثين من الكليات والجامعات المختلفة

- معمل الكيمياء الجزئية والبيولوجية :-



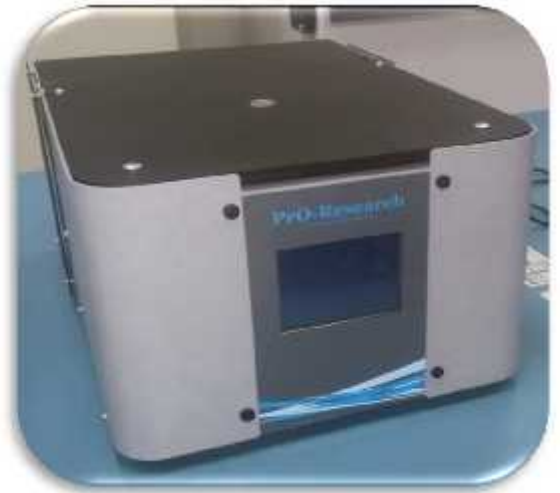
Chemist team :

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- **Name:** Cooling Centrifuge
- **Uses & Mechanism of action:**

A device in which solid or liquid particles of different densities are separated by rotating them in a tube in a horizontal circle. The denser particles tend to move along the length of the tube to a greater radius of rotation, displacing the lighter particles to the other end, with cooling & 3 different size of Rotor.

- **Company:** El-Ashraf



- **Name:** Deep Freezer (-20 )
- **Uses & Mechanism of action:**

Used to preserve plasma, vaccines, micro organism and blood product storage, and other applications in the field of research, development, production and quality control.



- **Name:** Digital Balance (3 digit)
- **Uses & Mechanism of action:**

Balance which shows the weight of a substance digitally and is used to weigh chemicals in labs weighs a substance to the level of almost 0.001 gm accuracy.

- **Company:** El-Ashraf



➤ **Name:** Digital Balance (4 digit)

➤ **Uses & Mechanism of action:**

Balance which shows the weight of a substance digitally and is used to weigh chemicals in labs weighs a substance to the level of almost 0.0001 gm accuracy.

➤ **Company:** El-Ashraf



➤ **Name:** Dry bath Incubator

➤ **Uses & Mechanism of action:**

Interchangeable quick-change blocks have fast heat-up times and reproducible temperature uniformity and accuracy, and may be used in a variety of applications, which include: restriction digestion, BUN, melting agar, coagulation studies, hybridisation, Hot Start PCR<sup>®</sup> reactions and DNA denaturation. Because of an impermeable moulded aluminium alloy block construction, each Cube dry bath may also be adapted as a mini water bath incubator if desired.



**Name:** Electrophoresis Trays (2 size)

**Uses & Mechanism of action:**

Used in Electrophoresis technique by the motion of dispersed particles relative to a fluid under the influence of a spatially uniform electric field.

➤ **Company:** El-Delta



➤ **Name:** ELISA Reader

➤ **Uses & Mechanism of action:**

Enzyme-linked immunosorbent assay (ELISA), is a biochemical technique used mainly in immunology to detect the presence of an antibody or an antigen in a sample. The ELISA has been used as a diagnostic tool in medicine

ELISA readers or micro plate readers do spectrophotometry; they emit light at one wave length, and measure the amount of light absorbed and reflected by an object such as a protein. A spectrophotometer measures ultraviolet and visible light.

Additionally, ELISA plate readers can also measure fluorescence and luminescence. Chemical dyes fluoresce or emit one color or wavelength when exposed to light. The amount of reflection, absorption and the color identify, and measure the amount of a substance.

➤ **Company:** *El-Delta*



➤ **Name:** ELISA Shaker & Incubator

➤ **Uses & Mechanism of action:**

These Incubator/Shakers are high-performance microplate incubator/shakers and can be used for any 96 well

microplate-based assay requiring optimal incubation conditions up to 40° C.

Features include excellent temperature uniformity within the plate, and across the row.

Unique orbital shaking efficiency, and improved sensitivity and specificity for Elisa assays.

➤ **Company:** *El-Delta*



➤ **Name:** ELIZA Washer

➤ **Uses & Mechanism of action:**

Microplate washers are used to remove reagents from sample wells on microplates, and to prepare them for the next step in an assay or procedure.

The process involves the dispensation of a wash solution, which through a series of buffer dispensations and aspiration cycles removes unbound liquid contents from the wells of the microplate, while allowing bound products to remain. The wash solution is then removed via vacuum suction. Washers are composed of a microplate workstation, incorporating a manifold priming tray, reservoir kit, pump module, and aspirating head to dispense the cleaning solution.

➤ **Company:** El-Delta



➤ **Name:** Electrical Homogenizer

➤ **Uses & Mechanism of action:**

Homogenization of various types of materials as a preparatory step prior to the analysis of nucleic

acids, proteins, cells, metabolisms, pathogens, and many other targets.



➤ **Name:** Laminar Airflow (class I)

➤ **Uses & Mechanism of action:**

The Airegard 201 horizontal laminar flow hood is specially designed to provide the ideal particle-free, bacteria-free, clean-air environment needed for cells culture, laboratory work testing, manufacturing, inspection, or pharmaceutical procedures. The exclusive design innovations built into the NU-201 will provide exceptional performance in the most demanding environments.

➤ **Company:** Dia Soft



➤ **Name:** OVEN

➤ **Uses & Mechanism of action:**

Used in tests need high temp (max 200 c0) and have other uses.



➤ **Name:** Spectrophotometer

➤ **Uses & Mechanism of action:**

Photometer can measure the intensity as a function of the light source wavelength . Measure chemicals, enzymes, electrolytes, etc.. Present in our sample.

➤ **Company:** Afaq El-Mostaqbal





➤ **Name:** Liquid nitrogen vessel

➤ **Uses & Mechanism of action:**

For the cryopreservation of blood, reproductive cells (sperm and egg), stem cells, and other biological samples and materials

Features:-

Molded or metal top assembly

Efficient neck tube insert to maintain thermal performance

Neck tube joining inner & outer containers

Thermal barrier, advanced super insulation and vacuum barrier technology provide optimum thermal efficiency

High strength aluminum shell provides durability

Five year warranty



➤ **Name:** NanoDrop

➤ **Uses & Mechanism of action:**

The Thermo Scientific NanoDrop 2000 is the only micro-volume spectrophotometer with a patented sample retention technology that allows for sample volumes as small as 0.5  $\mu\text{L}$ . It offers:

- Direct, easy measurements in less than 5 seconds – just pipette & wipe
- Full spectral output
- Measures DNA, RNA (A260) and Protein (A280) concentrations and sample purity (260/280 ratio)
- Large concentration range (2  $\text{ng}/\mu\text{L}$  – 15,000  $\text{ng}/\mu\text{L}$  dsDNA) without dilutions
- Pre-configured methods for common applications such as Nucleic Acid, Protein A280, Microarray, Proteins & Labels, Bradford, BCA, Lowry and Pierce 660nm – and more.

➤ **Company:** El-Delta



➤ **Name:** Thermal Cycler

➤ **Uses & Mechanism of action:**

The thermal cycler (also known as a Thermocycler, PCR Machine or DNA Amplifier) is a laboratory apparatus used to amplify segments of DNA via the polymerase chain reaction (PCR) process.

The device has a thermal block with holes where tubes holding the PCR reaction mixtures can be inserted.

The cycler then raises and lowers the temperature of the block in discrete, pre-programmed steps.

The two independent 48 well, peltier driven thermal blocks, both with sprung heated lids that adapt to both tubes and high profile 48 well plates within the GS482 enables two programs to be run independently or one program simultaneously on both blocks.

Either way, the GS482 provides dual block functionality at an incredible price point.

Both thermal blocks for the GS482

have 2 independent temperature control sensors and 4 peltier heating units, ensuring that temperature control and uniformity across the block surface is accurate and reproducible time after time, cycle after cycle. With the addition of Active

Sample Cooling (ASC) ensuring that samples are cooled until the heated lid reaches its target temperature, therefore reducing non-specific primer binding and extension, the G-Storm 482 is protecting your samples even before your protocol has begun.

➤ **Company:** *El-Delta*



➤ **Name:** Water bath

➤ **Uses & Mechanism of action:**

is a scientific instrument used for regulating the temperature of substances subjected to heat. The vessel of the water bath equipment is surrounded by another vessel containing water which can be kept at a desired temperature. Water bath is frequently used in chemistry labs for a number of temperature related applications. Water baths for laboratory are used to heat those substances, which can't be heated directly on Bunsen burner or hot plate or any other such media. However only those materials can be heated with laboratory water bath whose boiling point is less than that of water.

➤ **Company:** El-Ashraf



➤ **Name:** Ultrasonic

➤ **Uses & Mechanism of action:**

This ultrasonic equipment includes a variety of applications such as disruption of cell structure, e.g. bacteria, virus, spores. Besides, it also has functions to homogenize, emulsify, intermix, degas, disintegrate, and so forth. Therefore, it has been widely used in research of biology, medical science, chemical, food, cosmetics, environmental protection, and other related industries.



**Name:** UV Sterilization Cabinet

**Uses & Mechanism of action:**

Make sterile area for DNA & RNA preparation

➤ **Company:** *El-Delta*



➤ **Name:** UV Transilluminator

➤ **Uses & Mechanism of action:**

Make UV Light to allow us to read bands on electrophoresis gel.

& have protective visible cover.

➤ **Company:** *El-Delta*



➤ **Name:** Spectrophotometer (Jenway)

➤ **Uses & Mechanism of action:**

Photometer can measure the intensity as a function of the light source with wide range of wavelengths .

Measure chemicals, enzymes, electrolytes, etc.. present in sample.



**Name:** Vortex Mixer

**Uses & Mechanism of action:**

Provides smooth instant mixing of solution samples, including full 50ml tubes. The unique counter balance system creates maximum mixing action, while minimizing noise and excessive vibration. This results in quieter, more efficient and longer lasting operation.

➤ **Company:** El-Ashraf



➤ **Name:** Direct –Quv

➤ **Uses & Mechanism of action:**

Type 1 water for HPLC mobile phase preparation, sample dilution, buffer and cell culture media preparation, preparation of chemical solutions used with titrations, spectrophotometers and electrophoresis systems, preparation of culture media and reagents for molecular biology applications.

Type 3 water for low-volume non critical applications such as glassware washing or rinsing.

➤ **Company:** El-Nor



➤ **Name:** Deep Freezer ( -80 )

➤ **Uses & Mechanism of action:**

Used to preserve Nucleic acid samples like RNA and DNA of micro organism and blood product storage, and other applications in the field of research, development, production and quality control.

➤ **Company:** El-Ashraf



**Name:** Water Purification System (human)

**Uses & Mechanism of action:**

Provides ultra purified water for chemical and biological researches with:

Auto calibration for water sensors

- Auto regular recycling every hour
- Standby function : Auto recycling lower than setting value.
- Programmable by 2 steps for the filter exchanges to maintain water quality.

**Company:** El-Ashraf



➤ **Name:** Western Blot

➤ **Uses & Mechanism of action:**

Western blot is often used in research to separate and identify proteins. In this technique a mixture of proteins is separated based on molecular weight, and thus by type, through gel electrophoresis. These results are then transferred to a membrane producing a band for each protein. The membrane is then incubated with labels antibodies specific to the protein of interest.



➤ **Name:** Operating microscope

➤ **Uses & Mechanism of action:**

optical microscope specifically designed to be used in a surgical setting, typically to perform microsurgery. There is often a prism that allows splitting of the light beam in order that assistants may also visualize the procedure or to allow photography or video to be taken of the operating field.

An example of a procedure which commonly uses an operating microscope would be endodontic retreatment, where the magnification provided by the operating microscope improves visualisation of the anatomy present leading to better outcomes for the patient. Another example might be an anastomosis procedure carried out to join blood vessels in vascular surgery.

