Database for scientific equipment

at

Nematology and Biotechnology Lab unit

Lab unit director

Prof. Dr/ Sanaa Haroon

List of scientific equipment at

Nematology & Biotechnology lab unit

NO	Equipment name	company	manufacturer
1	**Real time RCR**	sigma	thermo
2	**Gel Doc. System**	Noor	Bio-rad
3	**Gel Doc. System**	Noor	Bio-rad
4	**PCR unit**	Noor	Bio-rad
5	**PCR unit**	Delta	Techne
6	**ELECTROPHORESIS**	Noor	Bio-rad
7	**MICROROTFOR CELL**	Noor	Bio-rad
8	**WESTERN BLOTTING UNIT**	Noor	Bio-rad
9	**HPLC**	Optoscient	Gilson
10	**NANO SPECTROPHOTOMETER**	Delta	IMPLEN
11	**SPECTROPHOTOMETER**	Henerch	Shimadzu
12	**GENE QUANT**	Noor	Bio-rad
13	**CROSS LINKER**	Delta	UVP
14	**HYPERIDIZATION OVEN**	Delta	Techne

15	**ELECTROPORATOR**	Noor	Bio-rad
16	**LAMINAR FLOW HOOD**	Etcoscientific	Esco
17	**LAMINAR FLOW HOOD**		Ehret
18	**COOLING CENTRIFUGE**	Delta	
19	**COOLING CENTRIFUGE**	Technoscient	Thermo
20	**COOLING CENTRIFUGE**	Technoscient	Thermo
21	**CENTRIFUGE**	Target	Mixtasel
22	**CENTRIFUGE**	Raya	Centurion
23	**MICRO CENTRIFUGE**	Alex	Nippon
24	**MICRO CENTRIFUGE**		Roth
25	**MIKRO –CENTRIFUGE**	Delta	Hettich
26	**THERMO SHAKER**	AGBL	Biosan
27	**COMPLETE SYSTEM OF MICROSCOPE**	optoscient	Olympus
28	**INVERTED MICROSCOPE**	Optoscient	Olympus
29	**OLYMPUS MICROSCOPE with camera**	Optoscient	Olympus
30	**Olympus MICROSCOPE**	Optoscient	Olympus
31	**MICROSCOPE**	Optoscient	Olympus
32	**GROWTH CHAMBER**	Optoscient	Binder
33	**INCUBATOR**	المهندسنو الاستشارينو	Heraeus
34	**INCUBATOR**	Technoscient	Precision scientific
35	**AUTOCLAVE**	Technical science	ALP

36	**DEEP FREEZER (-80)**	Spectra group diagnostic	ALS
37	**DEEP FREEZER (-80)**	Lab tech Egypt	Nunre
38	**FUME HOOD**	Mobica	Btricino
39	**SOXHLET**	Salzburg	IKA
40	**FREEZE DRYER**	El- dawlia	Christa
41	**ICE MAKER**	Egyptian engineering office	Scotsman
42	**WATER PURIFICATION SYSTEM**	Technoscient	Thermo
43	**DISTILLATOR**	Salzburg	GFL
44	**GEL DRYER**	المهندسنو الاستشارينو	EC355
45	**SHAKING INCUBATOR**	Target	Stuart scientific
46	**SHAKER**	Salzburg	GFL
47	**SHAKING WATER BATH**	Salzburg	GFL
48	**WATER BATH**	Salzburg	GFL
49	**DIGITAL BALANCE**	Henerch	Shimadzu
50	**DIGITAL BALANCE**	Salzburg	Denver
51	**ROTARY EVAPORATS**	Salzburg	IKA
52	**MICROWAVE – OVEN**	Omar afandi	Gold star
53	**STERILIZATION OVEN**	Alex	Panacea
54	**ELECTROTHERMAL**		Jencons
55	**MAGNETIC ROTARY**		Nuova

56	**HEATER**	Delta	Techne
57	**PH METER**	Technoscient	Thermo
58	**MIXER**		Shelton
59	**HAND MIXER**		Bamix
60	**SONICATOR**		Bransonic 5
61	**ELISA**	Ultra Lab Science	Clindiag
62	**WASHER**	Ultra Lab Science	Awareness Technology
63	**LASER MICROSCOPE**	Optoscient	Olympus
64	**PROTEIN DIGISTION**	Techno scientific	Gerhardt
65	**PROTEIN DISTILLATOR**	Techno scientific	Gerhardt
66	**MICROTOME**	Photon	

DEVICE NO 1: Real me RCR

Model : Piko Real 24

Serial no: PRO 241400814

Made in Finland

scientific technique of molecular biology based on the polymerase chain reaction which is used to amplify and analysis DNA by detecting the amount of PCR product after each cycle by the incorporation of fluorescent dye into the reaction, the quantification is based on correlation between measured fluorescence intensity and the amount of DNA .

The system is applicable to absolute quantification, relative quantification, melt curve analysis, high resolution melt analysis (HRM) and allelic discrimination, the two common methods are absolute and relative quantifications.

1- Absolute quantification: for determining the input copy number and concentration (ex. Correlating viral copy number with a disease).
2- Relative quantification : for analysis the relative change in gene expression based on determining the ratio between the expressed level of target molecule and one or more reference molecule within a sample (ex. Measuring gene expression in response to a drug)
3- Allelic discrimination: it is a qualitative PCR assay to assess single nucleotide polymorphism (SNP) based on classified samples according to having only one of the alleles present (homozygous

sample) or both alleles present (heterozygous sample) depending on fluorescent signals.

4- Melt curve :- it is a qualitative analysis of DNA product which allows to check unwanted PCR products (primer dimer and secondary products) and thus provides a tool for assay optimization .

5- High resolution melt analysis (HRM) : used for mutation analysis due to its capability to distinguish between single nucleotide differences depending on melt curve analysis .

Safety: Don't block the air intake or air exhaust vents . in the case of using one tube , eight tubes (empty) at least must be placed symmetrically with one tube in each corner of block .

Make sure that the working area is flat, dry, clean and the ambient Temp. range is between 5 ° C and 30 ° C .

Never supply other power supply cable.

www.thermoscientific.com

Device No 2 :Gel Doc. System

Model: XR+ system

Serial no: 721BR09327

Model no : universal Hood

Made in USA

A system for running a wide variety of protocols including nucleic acid gels, protein gels, complete analysis of bands and plots.

The system can be used for export gel images, export files for publication or presentation and for data analysis in different programs .

The system comprise dark room, CCD camera with a motorized zone lens (MZL) for adjustment of the lens control function (zoom, focus, iris) , universal hood to capture fluorescent images without using dark room, image lab software, emission filters and other accessories **.**

Safety: *acrylic screen doesn't provide protection from UV radiations so, the use of eye glasses, mask and gloves is strongly recommended*

Trans-illuminator sample area must be cleaned after use

www.uvp.com

E-mail: maintenance@noor-scientific.com

DEVICE NO 3 : GEL DOCUMENTATION SYSTEM

UE

P. NO. 3676/79 (17)

UNIVERSAL HOOD

SERIAL NO : 755/00775

WITH CAMERA MODEL C C I R

SERIAL NO ; 340589

PRODUCT CODE : GDS 8000 U V P , MAY 1997

DONGOL : HASP 4 EYYCY UE 202996

MADE BY : BIO – RAD , LABORATORIES

MILAN (ITALY

A complete laboratory imaging and analysis system for viewing documenting , storing and analysis gel , saving images quickly ,

Detection of DNA , RNA , protein gel , blotting membrane , autography film , thin layer chromatography plate , fluorescence develop , colony counting experiments and Dot Blot analysis(detect and find spots by column and row, adjust the diameter of spots).

It is also a system for band detection and control PCR contamination .

The system comprises Camera , UV / white fluorescent Darkroom , transilluminator and software . protein and ethidium bromide stained DNA gel can be placed and viewed on the transilluminator so, image or diagram may be saved or send to any printer during the analysis process .

Safety: *acrylic screen doesn't provide protection from UV radiations so, the use of eye glasses, mask and gloves is strongly recommended*

Trans-illuminator sample area must be cleaned after use

WWW.UVP.COM

E-Mail: maintenance@noor-scientific.com

DEVICE NO 4 :PCR unit

PTC 1148 C , MJ

EN 61326 -1 : 2006 CLASS A

EN 61010 – 1 : 2001 (SECOD EDITION)

SERIAL NO. MMO 10349

MADE IN USA , CALIFORNIA

A system for nucleic acid researches.

It is using for **DNA amplification** in vitro out of the living cells generating thousands to millions of copies of DNA sequences involving three steps :

1 – Denatura on : at 94 ° c for 1 minute .

2 – Annealing : at 50- 60 ° c for 1 min .

3 – Elonga on : at 72 ° c for 2 minutes .

The system can be applied for analysis small amount of DNA and ancient DNA.

Safety : it operates at temperature (5 – 40 ° C) , humidity 80 ٪at temp.

31° C , 50 ٪ at temp. 40° C and supply voltage not to exceed ± 10 ٪ Environmental requirements for safety and performance included : normal air pressure , non explosive and protection from excessive heat

WWW.bio–rad.com

DEVICE NO 5 : PCR UNIT

SERIAL NO 81131 – 13

MODEL FPR OGO2D

MADE IN ENGLAND

A system for nucleic acid researches.

It is using for **DNA amplification** in vitro out of the living cells , generating thousands to millions of copies of DNA sequences involving three steps :

1 – Denatura on : at 94 ° c for 1 minute .

2 – Annealing : at 60 ° c for 1 min .

3 – Elonga on : at 70 ° c for 2 minutes .

The system can be applied for analysis small amount of DNA and ancient DNA.

WWW.neb.com

- **clmer.com / abWWW.perkin**

WWW.stratagene.com

DEVICE NO 6: ELECTROPHORESIS

MODEL NO. POWER PAC 300

SERIAL NO. 283BR 16662

UE P.NO :3676/9 (16)

GEL SYSTEM : MAXICELL

E-C 360M.

MADE IN USA – FLORIDA

A system designed for very fast separation of DNA , RNA or protein molecules using an electric field applied to a gel matrix . so it is a system for analytical purpose but may be used as **a technique prior to use of other methods such as PCR reaction , cloning or southern blotting .**

It is also ideal for RFIP analysis and rapid detection of DNA sequencing using RAPD technique (detection of very small DNA fragment) .

acrylamid gel is used for separation of proteins or small DNA ,RNA

however, agarose gel is used for larger DNA greater than a few hundred bases . Molecules in the gel can be stained to make them visible (ethedium bromide , silver , brilliant blue) and a Photograph can be taken of the gel under UV using **GEL DOC** .

WWW.sheltonscientific.com

WWW.sci-plas.co.uk

DEVICE NO 7: MICROROTFOR CELL

Model no : microrotfor

Serial no : 309BR 1544

Made in USA

Power SN 044BR6681

A system for separation of protein according to iso-electric point

It offers rapid, simple and effective fraction of protein from complex protein mixture. It offers also two cooling setting:

- **20 °C for applications that require denaturated protein .**
- **10 °C for applications that require non denaturated protein.**
  - Fractionation of sample occurs within the focusing assembly
  - The cathode and anode assembles hold the anode and cathode electrolyte solution and provide electrical contact between focusing chamber and chassis
  - Ion exchange membranes separate the electrolyte from the sample while allowing current to pass through
  - Harvesting tray collect and hold the ten fractions and for temporary storage of the collected fraction
  - Accessories including assembly tool, syringe, forceps and vacuum source

Safety: *allow the run to con nue 30 minutes because longer mes may result in collapse of PH gradient. Harvesting should be complete as quickly as possible to avoid diffusion of separated protein, the membrane must be stored in electrolyte or in dis lled water and can be reused for 4-5 runs*

DEVICE NO 8: WESTERN BLOTTING UNIT

MODEL: SD semi- dry cell

Made in USA

A powerful blotting equipment for separation of protein according to molecular weight, achieves fast transfers for large or small gels

WWW.bio–rad.com

DEVICE NO 9: HPLC

805 MANOMATIC MODULE

N 156456

811 DYNAMIC MIXER

N157166 SERIAL NO 369E5T145

305 PUMP NO 155946

306 PUMP NO 157138

POWER UV MADE IN USA

A C N 001768386

MADE IN FRANCE

It is one of the most powerful tools in analytical chemistry since it has the ability to separate compounds that are present in any sample (pharmaceuticals , chemicals , hormones).

The maximum pressure 60 Mpa , <u>it involves</u> :

INJECTOR : insert the sample into the flow of mobile phase , and for pressure control .

DYNAMIC MIXER : for mixing mobile phase .

DETECTOR : effluent at any wavelength between 190 , 380nm

COLLECTOR : collection of each cycle into same or different set of tubes

PUMPS: pressure control, force mobile phase through column .

COLUMNS : in which stationary phase is held , the inside wall is coated with an inert material (glass) and its temp. is thermostatically controlled to enhance reproducibility of analysis.

The degree of interaction between the mobile phase and stationary phase affect the time of analysis , impure solvent can absorb quantities of UV therefore , there is a relationship between used solvent as a mobile phase and UV .

As the sample passed down through the column by gravity , different colored bands could be seen because some components were moving faster than others based on the different strength of each compounds' chemical attraction to the particles , the compounds that were more strongly attached to particles slowed down while others strongly attached to the solvent more faster

Safety : *do not run the pump head dry , it must be primed before opera on . the lamp must be replaced if it has been in use for 1000 hours ..*

WWW.Eul-edu.Eg

WWW.water.com

WWW.phenomenex.com /resources/default.aspx2.id=11025

WWW.thermohypersil.com

DEVICE NO 10: NANO SPECTROPHOTOMETER

Model: P- Class 330

Made in Germany

An optimized system for quantification and purity assessment of nucleic acid and protein samples with a minimum sample size 0.3 ul.

Wide detection range , concentration coverage apply nano volume samples directly without dilution

The system combines micro volume and cuvette capability in a single instrument with wavelength range 190-1000 nm, built-in low vibration vortex (2800 rpm)

Safety: *restricted on the use of certain hazardous substances*

DEVICE NO. 11 : SPECTROPHOTOMETER

SHIMADZU CORPORATION

SERIAL NO. A113

31034297

CAT. NO. 204 – 04550 – 01

MADE IN JAPAN

A system for measuring DNA concentration and its contamination with RNA or protein (automatic determination of concentration)

Measuring wavelength range, wavelength scanning speed, wavelength reproducibility, readability and accuracy. Photometric ranges, accuracy and reproducibility.

Measuring absorbance change rate at regular intervals of time.

Data processing are possible such as data storage and peak detection , mixed samples of up to eight components can be determined , can be used as standard and stored in the memory .

Safety: *a measuring error may occur from contamination and split liquid*

DEVICE NO 12 : GENE QUANT

UE

P.NO. 3676 / 97 (14)

MODEL NO. SMARTSPEC 3000

SERIAL NO. 269BR 02982

MAX . POWER 65VA

MADE IN USA

It is a rapid and simple way for measuring the absorbance of known concentration to determine the concentration of unknown sample .It is based on the absorption of light as a function of wavelength, has a

Light source that generates light of specific wavelength , identifies the relationship between sample concentration and transmitted light and between absorbance and concentration .

Default method to determine DNA and RNA, can convert absorbance reading of nucleic acid solution into concentration.

The conversion factor is determined by the type of nucleic acid being measured (dsDNA ,ssDNA,RNA ,DNA oligo and RNA oligo) which can be selected by pressing **select** .

Determine the molecular weight and molar extinction coefficient and uses them to convert the absorbance reading into mass and molar

concentration.

It has the ability to accept samples in replicate groups and to calculate a mean and standard deviation for each sample .

It has different assay keys :

Abs key to display the absorbance reading .

Conc key to assay DNA oligo and RNA oligo .

Dillution factor for calculation of conc. From absorbance data .

DNA / RNA calculate nuclic acid conc .

Protein key to determine protein conc .

Kinetics key to collect kinetic data by collecting absorbance reading .

Setup key for certain option , date and time .

Scan key to collect and print absorbance of sample – defined range of wavelength .In addition to other assistance keys**.**

Safety : *do not use flammable materials , do not pour liquid into the sample chamber , always connect the system to the correct power source .*

WWW. DISCOVER . BIO – RAD .COM .

E-MAIL: MAINTENANCE @ NOOR- SCIENTIFIC. COM

DEVICE NO 13 :CROSS LINKER

UE

P.NO. 3676 / 97 (11)

UPLANTED , CA 91786 USA

MODEL CL 1000

95-0174 – 02 S/N 062900-02

MADE IN USA

It design to measure and control the UV radiation (allows to set UV sample exposure) , UV curing and UV sterilization .

PCR contamination control , **Flouresence of materials .**

Nicking ethidium – bromide stained DNA in agarose gel .

Gene mapping (it is based on the linkage between location of genes **)**

Max . UV exposure 999.900 micro joules per cm² and max . UV

time exposure 999 minutes .

safety : *always disconnect the cross linker from its electrical supply before servicing .*

E – MAIL : UVP @ UVP . COM

DEVICE NO 14 : HYPERIDIZATION OVEN

P.NO. 3676/97 (9)

MADE IN ENGLAND

blotting techniques in which DNA, RNA or protein are immobilized onto nylon or nitrocellulose filters form a cornerstone of molecular biology.

Detection of desired sequence using radioactive probes.

The techne Hybridizer can be performed under safe conditions,

Using minimal volume of 0.5 ml, a temperature range of (5° C to 80 °C **) .**

It holds180 mm diameter tube or 3 X 44 mm diameter tube

Or 4 tubes if using a four – tube carrier.

Safety : *do not use hot objects , inflammable gases or liquids and do not place any liquid directly in unit ,temperature up to 100°C can cause burns.*

homepage WWW.techneuk.com.uk/

E – mail SALES@TECHNEUKATT MAIL.COM

DEVICE NO. 15 : ELECTROPORATOR

MODEL : MICROPULSER

SERIAL NO. 411 BR 0737 UE

P.NO. 3676/97 (13)

MADE IN USA

It is a non viral method used to transfer genes into living cells by means of high – voltage electric pulses , and the duration of electric pulses lead to a temporary increase of cell membrane permeability , this allows various non-permeant molecules including DNA to cross the membrane and enter the cell . In other word **, it is a system used for the electroporation** of bacteria , yeast ,and other micro organism

The system consists of pulse generator module , a shocking chamber and a cuvette (LED , light emitting diode) setting between bacteria and fungi .

WWW.bio-rad.com

Device No 16 : LAMINAR FLOW HOOD

ESCO . MODEL AC 2-4 S 1

SERIAL NO : 2005-11345

INFLOW :99 + / - 5 LITER D/M

DOWNFLOW : 0.26 – 0.38 M/ S , 12 POINT TOTAL

POWER 312 W

VAC 50 HZ DEDICATED 13 A POWER INPUT REQUIRED

MADE IN GERMANY

A cabinet for sterilization using UV rays which are a simple and effective method for microorganism to be destroyed .**It is also for preparation of pharmaceutical T .C.**

It is a clean room with vertical , laminar air flow across the whole work zone . the circulation air , cleaned by the filter- circulate vertically through the work zone . part of circula ng air (approx.70%) is sucked at the front of the work plate to the back part of the workbench .

(approx . 30%) of the air volume is blow off into the surrounding room through the front aperture , this prevents any contamination inside the work zone.

A certain work inside the workbench requires the use of a flame

(a burner with piezo – electric ignition) such a burner has no permanent flame and avoid arise of temperature inside the work zone

Safety : *The workbench must be allowed to run empty for ten minutes after the work is finished in order to purge air born contamination away from the work zone , filters must be exchanged after* ***approx.5000 hours***

working under normal laboratory condition. do not use any aggressive media for cleaning the surface

WWW.escoglobal.com.
Mail @ escoglobal.com

DEVICE NO 17 : LAMINAR FLOW HOOD

FABRIKSTRABE 2.D-79312 EMMENDINGEN

SERIAL NO : 1337

SCHUTZART IP 20DIN40050

AURA MINI

DEVICE NO 18: COOLING CENTRIFUGE.

UE

P.NO. 3676/ 97

MICRO 22R .

TYPE : WERK Nr BAUJAHR

1110 0001370-04-00 2000

MADE IN GERMANY .

It is using for separating substances or mixtures (under cooling) with a density of up to max. 1.2 kg / dm^3. for substances denser than 1.2kg / dm^3 the rated speed should be reduced .

Hazard materials, toxic or radioactive must take appropriate measures

Max capacity: 6*50ml, Speed RPM : 18000 .

Safety: *centrifuge containers must not be filled, the centrifuge may only be operate when the balance within the bounds of acceptability and must not be operated with inflammable or explosive materials.*

DEVICE NO 19: COOLING CENTRIFUGE

Model: FRESCO21

Serial No 41246250

Made in Germany

It is using for separating substances or mixtures (under cooling) with a max. speed 14800 rpm ,max capacity 24X1.5-2

Safety: *centrifuge containers must not be filled, the centrifuge may only be operate when the balance within the bounds of acceptability and must not be operated with inflammable or explosive materials .*

www.thermo.com

DEVICE NO 20: COOLING CENTRIFUGE

Model: Heraeus Megafuge 8R

Serial No : 41769903

Made in Germany

It is using for separating substances or mixtures (under cooling) Delivered with 2 fixed angle rotors 24 X 1.5-2 ml with Max. speed 17000 rpm at least, 6X50 ml with Max. speed 9500 rpm and delivered with adaptor for 15 ml falcon tubes.

Safety: *centrifuge containers must not be filled, the centrifuge may only be operate when the balance within the bounds of acceptability and must not be operated with inflammable or explosive materials.*

www.thermo.com

DEVICE NO. 21 : CENTRIFUGE

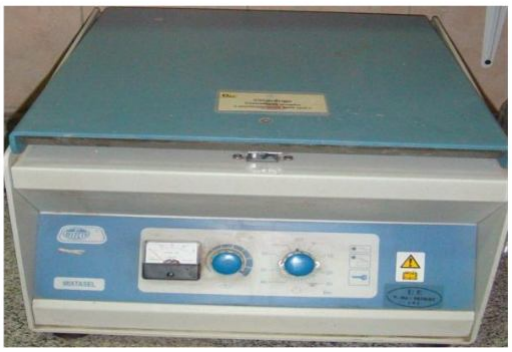
MIXTASEL

UE

P.NO. 3676 / 97 (1)

COD : 7000575

SERIAL NO. 0343246



A system for centrifuging samples with a maximum speed in RPM :

8000 u / min.

Safety: *centrifuge containers must not be filled, the centrifuge may only be operate when the balance within the bounds of acceptability and must not be operated with inflammable or explosive materials.*

DEVICE NO. 22 : CENTRIFUGE

Model: K2015

Serial NO : 214298

Made in United Kingdom

A system for centrifuging samples with a maximum speed 6000 rpm

Capacity: 24x15 ml, 8x50 ml

Safety : *centrifuge containers must not be filled, the centrifuge may only be operate when the balance within the bounds of acceptability and must not be operated with inflammable or explosive materials .*

DEVICE NO. 23 : MICRO CENTRIFUGE

Model: NG003

Serial No: NG103.1002

Max. speed: 14000 rpm

A system for centrifuging samples with a maximum speed 14500 rpm

Capacity: 12x0.2 to 2 ml

Safety : *centrifuge containers must not be filled, the centrifuge may only be operate when the balance within the bounds of acceptability and must not be operated with inflammable or explosive materials .*

DEVICE NO. 24 : MICRO CENTRIFUGE

Model :100 VAC

Serial NO.: 031233

Made in Taiwan

A system for centrifuging samples with a maximum speed 6000 rpm

Capacity: 6x2 ml

Safety : *centrifuge containers must not be filled, the centrifuge may only be operate when the balance within the bounds of acceptability and must not be operated with inflammable or explosive materials .*

DEVICE NO 25 : MIKRO –CENTRIFUGE

MIKRO 12-24

D-78532 TUTTINGEN

TYPE: WERK Nr BAUJAHR E kin

2070 0003655 1000 2500 Nm

MADE IN GERMANY

Using for separating samples.

Max capacity :1.2 kg / dm³

Speed PRM :15000

Safety **:** *centrifuge containers must not be filled, the centrifuge may only be operate when the balance within the bounds of acceptability and must not be operated with inflammable or explosive materials .*

Delta410@hotmail.com (EGYPT)
labotec@hot.co.za (SOUTH AFRICA)
Prosci @aol.com(USA)

DEVICE NO 26 : THERMO SHAKER

Model: TS-100

Serial No: 111541

Made in EU

A system for shaking sample under Temp. up to 100°C.

Max speed 1400 rpm with a capacity 20x0.2 ml, 12x1.5 ml

www.biosan.iv

DEVICE NO 27 : COMPLETE SYSTEM OF

MICROSCOPE WITH CAMERA,

VIDEO AND MONITOR

BH–2

WHSZ SERIES EYEP[ECES

OPTOSCIENT MADE IN

JAPAN

Photo micrographic system.

For magnification (microorganism as bacteria, fungi , nematode to be visible) up to 100 x.

For complete analysis of different tissues using software, take a photo with a camera.

Safety : *avoid exposure to direct sunlight, high temp. and humidity , dust and vibration . Moreover, lenses must be kept clean, and do not use organic solutions to wipe components.*

WWW. OLYMPUS.COM

DEVICE NO 28 : INVERTED MICROSCOPE

Model: CKX41SF

Serial No : 3F40197 201306

Made in PHILIPPINES

A system for analysis of different ssues, magnifica on up to 40x in routine and research application .

It is a phase contrast, bright field microscope with trinocular tube ,auto and manual control , operates with three inserts (slides, Petri dishes and micro plates).

Safety: *avoid subject to direct sunshine, high temp. And humidity . Culture liquid or water split on the stage or flame may damage equipment .*

www.olympus.com

DEVICE NO 29 : OLYMPUS MICROSCOPE

OLYMPUS SZ

SZ61 / SZ 61-60

SZ61 TR

Made in PHILIPPINES

Instrument designed to produce magnified, visual or photographic images of small objects.

The microscope must accomplish three tasks: produce a magnified image, separate details in the image and render the details visible to the human eye or camera .

WWW.OLYMPUS.COM

DEVICE NO 30 : MICROSCOPE

Model: T13-220p

Made in Taiwan

A system for magnification of samples

DEVICE NO 31 : MICROSCOPE

Model: SONAR T

Serial No. : 045142

A system for magnification of samples

DEVICE NO 32 : GROWTH CHAMBER

ART NO. 9020 – 0051 KBWR 240

SERIAL NO. 07 – 13937

A system for stimulating the parameters of natural conditions as temp. , humidity and light or any climatic conditions for a long period of time constantly .

. So, it is equipped with program controllerand these parameters can be equipped for plant growth, agricultural industry , pharmaceutical and chemical industry by adjusting the program controller .

The chamber can be operated in a temp. range from -5°c to 100°c and a humidity range of 10 % to 90 % .

Safety : *the unit must not become wet during operation , do not touch the glass door or the inner surface during operation , do not change temp . unit from C° to F°, do not operate the unit with softened water .*

WWW.binder – world.com

E – mail : info @binder- world.com

DEVICE NO 33 : INCUBATOR

HERAEUS

NARP 157024

BETRIEBSANLEITUHG

KUHI – BRUTSCHRANK BK 500E

Heating power regulator to control temperature for a period of time, that is required for the growth of microorganism.

It consists of :

Temperature sensor (5° C- 4 ° C) , Heat resistor , Regulating cooling system , Containment illumination , Transformer regulator supply ,Control cooling and Control plugs

DEVICE NO. 34 : INCUBATOR

PRECISION SCIENTIFIC

LOW TEMP. INCUBATOR 815

DEVICE NO. 35 : AUTOCLAVE

MODEL: KT – 30L

SERIAL NO. 802587

MADE IN JAPAN – TOKYO

A hot air sterilizer for sterilizing and drying.

Many INSTRUCTIONS must be followed:

1- Not to operate with wet hand, never open the lid except when the pressure is **ZERO ,** otherwise it cause burn – injury .
2- **P**lace the object too much in chamber cause defective sterilization.
3- The materials or liquids involving salt, acid or alkali can't be sterilized.
4- Natural cooling is recommended in case of sterilizing of liquids in the bottle.
5- Make sure exhaust, drain valves are close .

E – mail : technical science Egypt@yahoo.com

DEVICE NO. 36 : DEEP FREEZER (-80)

Model: pla lab 340V-4-STD

Serial No.: LS 05612

Made in Italy

A system for freezing samples with a temperature range -40 to -85°C, capacity 500 L. It is provide with software, microprocessor controller and alarm system.

www.angelantoni.it

DEVICE NO. 37 : DEEP FREEZER (-80)

UE

P.NO. 3676 / 97 (5)

MODEL NO. NU – 65 / 0E

SERIAL NO. 91008991

VOLTAGE NO. SERIES B

RATED INPUT 785W

AMPERAGE 4.9A

A system for freezing samples with a temperature range -40 to -85°C.

DEVICE NO. 38 : FUME HOOD

Art . 642 (26A – 380V)

Air clean system designed to protect the operator , the process , or both from toxic vapors , fumes , gases and particles . so , it is a system for operation with specific toxic and mutagenic chemicals .

It provides a clean work area for amplification or manipulation.

DEVICE NO. 39 : SOXHLET

Model: fix ika

IKA KHS1

Serial No.: 01-476408

Made in Germany

A system for extracting solid material under atmospheric pressure

The system comprise cooling / heating block for temperature control and to quickly cool off base vessels, four cooling system to supply cooling water to the spiral condenser, four extraction tubes and four base vessels

Safety: *the apparatus designed for applications with a temperature up to 200°C and minimal quan ty of solvent in the base vessels 100 ml. the base vessel must not be operated while it is dry . make certain that temperature of cooling medium is low enough and the flow of cooling medium in the condenser is great to ensure that all vaporized solvent condenses on the condenser*

www.ika.net

DEVICE NO. 40 : FREEZE DRYER

Model : Christ alpha 2-4 LD Plus

Serial No.: 20474

Made in Germany

It is the most gentle process for drying products (extraction of water from frozen material), based on sublimation which meaning direct conversion from solid to gaseous state avoiding the liquid state, this happen under vacuum (pressure lower than 6.11 m bar) and the temperature in the product is less than -10°C

It is also the most gentle process for preserving the biological properties of sensitive tissue, bacteria, virus, plasma, serum, vaccine, pharmaceutics since the enzymatic and chemical change are largely avoided

The main components of a freeze dryer are vacuum pump to remove air and ice condenser to remove the water vapor.

Safety: *liquid shouldn't be used; during operation the system must not be moved. The system is not suitable for explosive, inflammable, toxic, pathogenic, acidic products or high solvent concentration.*

www.martinchrist.de

DEVICE NO. 41 : ICE MAKER

Model: MF 36 AS

Serial No.: EA23330

Made in Italy

A system for making ice, ice storage

DEVICE NO. 42 : WATER PURIFICATION SYSTEM

Model: smart2 pure 12 UV/UF

Serial No.: 41643413

Made in Hungary

A system designed to produce sterile, filtered ultra-pure water that is free of particles, salts and organic compounds.

The system is applicable to analytical techniques (HPLC, ion chromatography, atomic spectrophotometry and TOC analysis) and for reagent and solution preparation (preparation of cell culture and tissue culture media)

Safety: *the maximum operating temperature is 40˚C* **.** *the feed water pressure is not to exceed 6 bar. Free gravity fall to drill must be ensured. The ultra filtration membrane should be replaced every 2 years.*

www.thermo.com

DEVICE NO . 43 : DISTILLATOR

UE

P.NO. 3676 / 97 (4)

For preparation of distilled water.

DEVICE NO. 44 : GEL DRYER

MODEL NO. SGD 4050 – 240

SERIAL NO. SGD 4050 – 2F220165 – 4H

GEL DRYER SLAB EC 355

DEVICE NO. 45 : SHAKING INCUBATOR

UE

P.NO. 3676 / 97 (10)

SERIAL NO. R0001004 AA

CAT NO. SI 30 Made in

England

A system for shaking different samples. It provides with a speed controller and a heater to set the temperature of the incubator .

Safety: *there is a danger of liquid spillage if containers are over filled and shaken at high speed***.**

DEVICE NO 46 : SHAKER

GESSELISCHAFT FUR

LABORTECHNIK mbH

D – 30938 BURGWEDEL

TYPE 3005

NO 10141596

MADE IN GERMANY

A system for shaking different samples.

Safety : *it should not be subjected to high mechanical strain .*

It is not suitable for using with flammable gases or fumes

DEVICE NO 47 : SHAKING WATER BATH

Model:1083

Serial No.: 11705311L

Made in Germany

Shaking device operates with a temperature range between approximately 5°C above ambient temperature to 99.9°C, the shaking frequency can be set in a range of 10- 250 / min

Safety: *the device must only be operated with water however; oil, acid or any agents can lead to damages. The water level should be kept between the Min. and Max. markings, water shortage lead to destruction.*

www.GFL.de

E-mail: info@gfl.de

DEVICE NO. 48 : WATER BATH

TYPE 5003

NO. 029177

MADE IN GERMANY

www.GFL.de

E-mail: info@gfl.de

DEVICE NO 49: DIGITAL BALANCE

TYPE AEG – 220

NO D400400621

CAPACITY 220G READABILITY 0.1mg

MADE IN Japan

Weight very small solid samples (capacity 220.0000 gm). It takes about 6 seconds to display a stable and accurate weigh difference between sample temp. and that of the weighing chamber may take several minutes to equilibrate , weighing errors may be greater than 1mg whet the temp .in the lab. Changes **TARE** key clears the display to zero .

Average time, stability , and other parameters are selected with the **MODE** button .

Safety: *do not use organic solvents or chemical dusters*

DEVICE NO 50: DIGITAL BALANCE

Model: MXX-123

Serial No.: 24053314

Made in USA

Weight very small solid samples up to 120 gm

Safety : *do not use organic solvents or chemical dusters***.**

www.denverinstrument.com

DEVICE NO 51 : ROTARY EVAPORATS

Mode: RV 8 S 99

Serial No.: 07.433883

Made in GERMANY

It is a device used for gentle removal of solvents from samples by evaporation (under reduced pressure) .

It is also used in molecular cooking for the preparation of distillates and extracts.

The main components of a system are :

A motor unit that rotates the evaporation flask, **a vapor duct** for the vapor being drawn off the sample, **a vacuum system** to reduce the pressure, **a water bath** to heat the sample, **a condensate-collecting flask** to catch the distilling solvent after it re-condenses.

Safety: *explosions may occur from concentrating unstable impurities and also when switching the rotation off during evaporation. Users must take precautions to avoid contact with rotating parts.Never heat the evaporating flask without switching on the rotary drive.*

www.IKA.com

DEVICE NO. 52 : MICROWAVE – OVEN

MODEL NO. ER – 5054 D

P/ NO. 4872681 C

A **system for cooking** (agarose gel , media for tissue culture and other purposes) .

DEVICE NO. 53 : STERILIZATION OVEN

Model: PANACEA 2431

Serial No.: 1993

Made in Italy

The system operates under Temp. between 140 and 250 °C, time can be set between 1 min and 600 min. the cycle is considered valid only if the writing END is appearing.

Safety: the material to sterilize must be clean and dry

Never lay the material on the lower level, always place it on one of the perforated grids.

E-mail: alexbiotechnology@yahoo.com

DEVICE NO. 54 : ELECTROTHERMAL

CAT NO. EME 3 1000CE 3X1000 MI

SERIAL NO. 10038638

CAPACITY 450 C MAX

A system for heating samples.

DEVICE NO 55 : MAGNETIC ROTARY

MODEL NO SP18420-26

SERIAL NO 3065

2555 KERPER BOULEVARD

DUBUQUE IOWA 52001

MADE IN USA.

A system for mixing solid materials with liquids (in the preparation of Buffer solutions , T . C. media, …., etc.) .

DEVICE NO 56: HEATER

MODEL : FDB02DD

SERIAL NO 92624-19

MADE IN ENGLAND

It is a safe , dry , constant temperature source , uses for incubation , boiling , wet ashing , sample concentration ,to keep sample under certain temperature for a period of time and for enzyme analysis .

The unit covers the temperature range from (25˚C TO 200˚C), keep samples under certain temp . for a period of time, and **heater indicator** will light as the unit tries to follow the set temp.

Over temp. indicator will light if the unit should exceed the temp.

Safety : *do not use hot objects , inflammable gases or liquids and do not place any liquid directly in unit .*

WWW.techneuk.co.uk

E-Mail : sales@techneuk.attmail.com

DEVICE NO 57: PH-METER

Model: ORION STARA 2140

Serial No.: X01445

A system for measuring PH or concentration and Temp. of the sample with automatic blank correction selection.

Safety: *a minimum of 20% water must be in the sample for the best measurement results.*

Extra care should be taken while measuring samples that contain proteins.

www.thermoscientific.com

DEVICE NO 58 : MIXER

MODEL : VSM – 3

SERIAL NO 000982

MADE IN USA

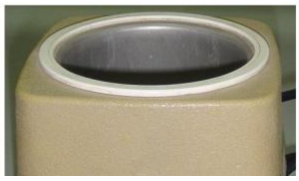
A system for mixing samples in small tubes or eppendorf tubes.

DEVICE NO 59 : HAND MIXER

MAX. 5 MIN. 2- SPEED

MADE IN SWITZERLAND

DEVICE NO 60 : SONICATOR



MADE IN USA (050 951102 011)

USING FOR STERELIZATION

DEVICE NO 61: ELISA

MODEL: MR-96
SERIAL NO: MR2L J006
MADE IN Belgium

ELISA (which stands for enzyme-linked immunosorbent assay) is a technique to detect the presence of antigens in biological samples.
An ELISA, like other types of immunoassays, relies on antibodies to detect a target antigen using highly specific interaction of antibody-antigen.
(ELISA) test uses antibodies and color change to identify a substance.
ELISA is a popular format of "wet-lab" type analytic biochemistry assay that uses a solid-phase enzyme immunoassay (EIA) to detect the presence of a substance, usually an antigen, in a liquid sample. Performing an ELISA involves at least one antibody with specificity for a particular antigen. The sample with an unknown amount of antigen is immobilized on a solid support (usually a polystyrene microtiter plate) either non- specifically (via adsorption to the surface) or specifically (via capture by another antibody specific to the same antigen, in a "sandwich" ELISA).

DEVICE NO 62: WASHER

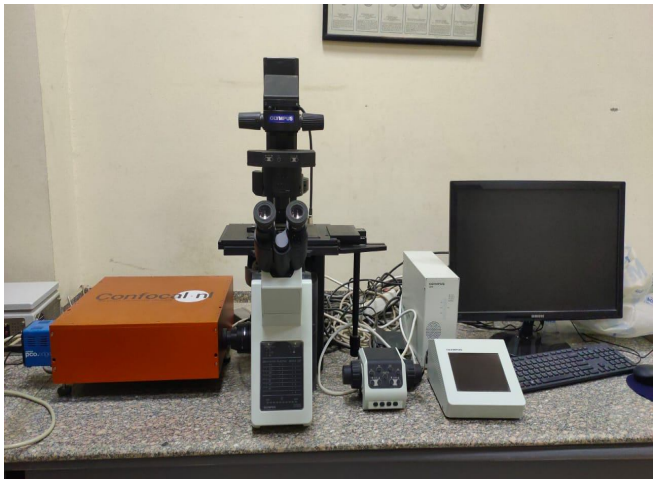
MODEL: Stat Fax-2600
SERIAL NO: 2600-10081
MADE IN: USA

Microplate washers are laboratory instruments designed to control the procedure of washing experimental samples arranged in plate-based formats. Users load a plate and select a program; microplate washers then dispense, soak and aspirate liquids from the plate in seconds. Compared to manual alternatives, microplate washers tremendously improve the speed and accuracy of many different washing procedures.

DEVICE NO 63: LASER MICROSCOPE

MODEL: SCIENCE PARK 406
SERIAL NO:20182200
MADE IN:

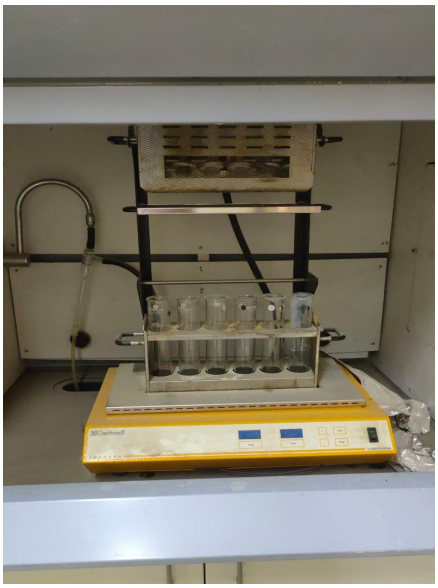
Laser scanning microscopy is used in biological research to obtain high-resolution, high contrast imagery of a sample. Laser microscopes can scan samples point by point, resulting in optical sectioning that can be used to construct precise 3D imagery.



Type laser confocal microscope: Confocal laser scanning microscopy (CLSM) allows optical slicing through tissue. By eliminating out-of-focus images، CLSM affords greater spatial resolution in living tissue and allows visualization of living structure as small as dendritic spines.

DEVICE NO 64: PROTEIN DIGISTION

MODEL: Gerhardt TT A
SERIAL NO: 7050/1 160063
MADE IN: GERMANY



The quick alternative to the digestion block. Designed for digestion of a wide variety of samples with nitrogen content in the micro and macro range.
Also, for use as a multifunctional, programmable hotplate for inorganic acid digestion.

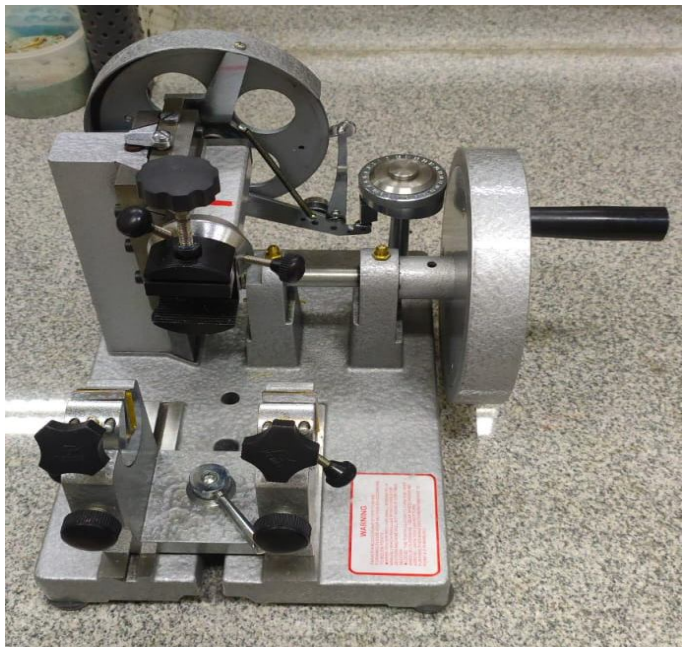
DEVICE NO 65: PROTEIN DISTILLATOR

MODEL: Gerhardt VAP 200
SERIAL NO: 5200 160131
MADE IN: GERMANY

Protein and Nitrogen Analyzer laboratory equipment and analytical systems for food, animal feed, and environmental testing.
Nearly all food, for animals and humans alike, contains nitrogen/protein. The amount of protein in a sample is determined from the percentage of nitrogen in the sample, which is a key parameter to conclude the quality and price of a specific product. Protein and nitrogen analysis is vital to these respective industries. Regulations by the FDA require the protein content to be declared on labels for both human and animal products.

DEVICE NO 66: MICROTOME

MODEL: YD-202
SERIAL NO: 22675
MADE IN:



Microtomes are used to cut thin slices of material, known as sections. Microtomes are used in microscopy, allowing for the preparation of samples for observation under transmitted light or electron radiation. Preparation of samples: Please consult appropriate literature for preparation of your samples