



وحدة المعامل والاجهزة العلمية

المعمل المركزي بكلية الطب البيطري، جامعة بنها

Central Lab



مدير المعمل : د. عبدالفتاح منجد

1- Real-time PCR

Equipment	Real-time PCR
Manufacturer	U.S.A
Model	Applied biosystems 7500 fast
Functions	Research Uses Diagnosis of infectious diseases Diagnosis of genetic diseases Cancer Detection Improve prognosis and monitor response to therapy Microbial uses Help in the field of food safety, food spoilage and fermentation Microbial risk assessment of water quality



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2- 3500 Genetic Analyzer (sequencer)

Equipment	3500 Genetic Analyzer
Manufacturer	U.S.A
Model	3500 Genetic Analyzer (Applied biosystems)
Functions	<p>Identification of the order of nucleotides on a piece of DNA and finding different kinds of mutations such as single nucleotide polymorphism (SNP) and insertion/Deletion (Indel) which might cause genetic disorder</p> <p>Identification of DNA fragment length polymorphism (microsatellites)</p>





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3- Thermocycler (Biorad)

Equipment	Thermocycler
Manufacturer	U.S.A
Model	Thermocycler (Biorad)
Functions	<ul style="list-style-type: none">- Amplification, Detection and identification of nucleic acid.- Quantified the virus, and help in gene expression.- PCR allows rapid production of short pieces of DNA, even when nothing more than the sequence of the two primers is known. 



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4 - SpectroStar Nano Drop

Equipment	SpectroStar Nano Drop
Manufacturer	Germany
Model	BMG LABTECH SpectroStar Nano Drop
Functions	<ul style="list-style-type: none">- Measures nucleic acid (DNA double or single strand and RNA) concentration and its purity .- Measures purified protein concentration.



5 - Gel documentation (Biorad)

Equipment	Gel documentation (Biorad)
Manufacturer	USA
Model	Gel documentation (Biorad)
Functions	<ul style="list-style-type: none">- Photography of stained gels- Printout of photographic data- Saving of photographic data





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6 - Mili-Q Water

Equipment	Mili-Q Water
Manufacturer	USA
Model	Merck Milli-Q Integral water purification system
Functions	<p>-Produces pure and ultrapure water directly from tap water which enter in molecular biology</p> <p>- Produce D.W and double D.W which enter in microbiology and biochemistry works.</p>



7- Flowcytometry

Equipment	Flowcytometry
Manufacturer	USA
Model	BD Flowcytometry
Functions	<p>Cell state</p> <ul style="list-style-type: none">- Immunophenotyping- Cell cycle- Apoptosis- Cell proliferation <p>Cell function</p> <ul style="list-style-type: none">- Cell activation- Cytokine secretion

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	<ul style="list-style-type: none"> - Activation of signaling pathway - Level of intracellular reactive oxygen species <p>Microbiology</p> <ul style="list-style-type: none"> - Dead/live Discrimination - Absolute counting 
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8 - ELISA

Equipment	ELISA reader/Washer
Manufacturer	USA
Model	Stat Fax 2100 Microplate ELISA Reader
Functions	<p>Immunology</p> <ul style="list-style-type: none"> - Determination of serum antibody concentration in a virus test - Monoclonal antibody screening - Vaccine development <p>Diagnosis of Diseases</p> <ul style="list-style-type: none"> - Infectious Diseases, Cancer, Congenital Infections, pregnancy tests <p>Food industry</p> <ul style="list-style-type: none"> - Detecting potential food allergens such as milk, peanuts, walnuts, almonds and eggs <p>Toxicology</p> <ul style="list-style-type: none"> - Studying the adverse effects of chemicals compounds on the living organisms

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9 - HPLC

Equipment	HPLC
Manufacturer	USA
Functions	<p>It used for purification and identification of compounds such as:</p> <ul style="list-style-type: none">- Vitamins- Sugars- Hazardous organic substances as insecticides, pesticides ... etc- Organic acids- Food additives- Drugs, antibiotics ... etc- Biogenic substances as lipids, amines ... etc





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10 - Immunohistochemistry (IHC)

Equipment	Immunohistochemistry
Manufacturer	USA
Model	Merck Milli-Q Integral water purification system
Functions	For detection of: Marker of Cancer Prediction of Response to Therapy Infections Apoptosis



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11- Chem7

Equipment	Chem7
Manufacturer	Germany
Model	Erba Chem7
Functions	<p>Biochemical tests (Enzymes)</p> <ul style="list-style-type: none">- ALP, AMYL, CHE, CKMB, CPK, GGT, GOT/AST, GPT/ALT, LAP, LDH, LIP <p>Biochemical tests (General Chemistry)</p> <ul style="list-style-type: none">- BUN, Ca, CRE, DBIL, GLU, HDL-C, IP, Mg, NH3, TBIL, TCHO, TCO2, TG, TP, UA <p>Biochemical tests (Electrolytes)</p> <ul style="list-style-type: none">- Na, K, Cl <p>Immunological test</p> <ul style="list-style-type: none">- CRP 