

**MOLECULAR LABORATORY
ANALYSIS AND EQUIPMENT**

SN	ANALYSIS/EQUIPMENT	FUNCTION
1	PCR Machine	Target gene amplification
2	Centrifuge	Separation of DNA/RNA at high speed
3	pH Meter	Measurement of acidity or alkalinity
4	Incubator for every 10 samples	used to grow and maintain microbiological cultures or cell cultures
5	Microwave oven	Sterilizing and dissolving agarose
6	Gel documentation	use for gel imaging and documentation of nucleic acid and protein suspended within polyacrylamide or agarose gels.
7	Refrigerated micro centrifuge	used to spin small (2 ml or less) liquid samples at high speeds.
8	Electrophoresis unit for 19 samples	For separation of DNA/RNA
9	Electrophoresis unit for 9 samples	
10	Freezer	For storage of samples
11	-80C Freezer	For prolong storage and preservation of samples
12	Refrigerator	Use to keep sample preserved at low temperature

13	Distilled water	
14	Water bath	For incubation of samples in water at a constant temperature over a long period of time.
15	Hotplate with magnetic stirrer	keeps liquids circulating as they are heated for a faster and even reaction
16	Hybridization oven	used on constant rotating plates when probes were being used to identify proteins and for even distribution over the membranes, leading to a more reliable result.
17	ELISA Microplate Reader	Analyze enzyme kinetics, microbial growth and even cell-based assays base on the absorbance of the wavelength
18	Printing of ELISA Result	
19	Autoclave	For sterilization of media, materials and glassware
20	Weighing balance	For measurement
21	Vortex mixer	Thorough mixing
22	DNA Extraction from blood (Lab kit)	Isolation of DNA form sample materials
23	DNA Extraction from blood (Personal kit)	
24	DNA Extraction from Tissue (Lab kit)	
25	DNA Extraction from Tissue (Personal kit)	

26	RNA Extraction from blood (Lab kit)	
27	RNA Extraction from blood (Personal kit)	
28	RNA Extraction from Tissue (Lab kit)	
29	RNA Extraction from Tissue (Personal kit)	
30	DNA Extraction from bacteria (Lab kit)	
31	DNA Extraction from bacteria (Personal kit)	
32	DNA Extraction from fungi/yeast/plasmid (Lab kit)	
33	DNA Extraction from fungi/yeast/plasmid (Personal kit)	
34	DNA Extraction from plant (Lab kit)	
35	DNA Extraction from plant (Personal kit)	
36	RNA Extraction from bacteria (Lab kit)	Isolation of RNA form sample materials
37	RNA Extraction from bacteria (Personal kit)	
38	RNA Extraction from fungi/yeast/plasmid (Lab kit)	
39	RNA Extraction from fungi/yeast/plasmid (Lab kit)	
40	RNA Extraction from plant (Lab kit)	
41	RNA Extraction from plant (Personal kit)	
42	Gel Electrophoresis	
43	PCR analysis	
44	Molecular laboratory for workshop or seminar	
45	Grant project or individual project	
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S/N	EQUIPMENT	Quantity
1.	Legend Micro centrifuge	1

2	Refrigerated centrifuge	1
3	Gel documentation or UV trans-illuminator	1
4	Ecotherm or dry heating bath	1
5	Horizontal gel electrophoresis with a power pack	1
6	Orbital or rotary shaker	2
7	Incubator shaker	1
8	pH meter	1
9	T100 Thermal cycler	1
10	C1000 Thermal cycler	1
11	Water distiller	1
12	Hybridization oven/ UV crosslinker	1
13	Computer	1
14	Printer	1

S/N	Services/Instrument
1	Nucleic acid (DNA/RNA) Extraction
2	Nucleic acid amplification (PCR) without primers
3	Nucleic acid amplification (PCR) with non-degenerate primers
4	Nucleic acid amplification (PCR) with degenerate primers
5	Protein purification (SDS-Electrophoresis)
6	Western blotting
7	DNA Hybridization (Southern blotting)
8	HPLC Analysis (without standards)
9	Enzyme- linked immuno-sorbent assay (ELISA)
10	Comet assay
11	Microbial analysis (inhibition zone, sensitivity, characterization)
1	Terrameter SA 1000/4000
2	Terrameter SA 1000/4000 (non-academic usage)