



KERALA HEALTH RESEARCH & WELFARE SOCIETY

(An Institution fully owned by the Government of Kerala)

Ref :

NOTICE

Date :

Inviting expression of interest for setting up of Genetics, Molecular Biology and Virology lab at Deluxe Pay ward, Govt. Medical College Hospital complex, Thiruvananthapuram under the auspices of KHRWS.

KHRWS is an autonomous organization constituted under the ownership and control of the Govt. of Kerala to provide better services to the patients attending government hospitals and to the general public. ACR labs are functioning various Medical Colleges, District and Taluk Hospitals in the state under KHRWS.

Actions have been initiated to start a modern Genetics, Molecular Biology and Virology lab in ACR Lab, MCH, Thiruvananthapuram to expand its testing facilities in the field of Genetics, Molecular Biology and Virology. Furnished built up space for the above said lab has already been arranged. Expressions of interest are invited from organizations who have experience in setting up of Genetics, Molecular Biology and Virology laboratories with NABL Standards.

The selected organization will have to assist KHRWS in setting up of a Molecular Biology Lab conforming to NABL Standards, which will include the following :

- 1) Providing equipments and reagents on reagent rental contract.
- 2) Supply of equipments and materials which may not come under reagent rental contract.
- 3) Installation, commissioning and follow up technical support for enabling NABL Accreditation for the Lab.

Those who are interested may submit their expression of interest on or before 4 pm on 22.01.2024 to the MD, KHRWS, Red Cross Road, Thiruvananthapuram-695 035.

Sd/-

Managing Director

Approved for issue,

Senior Superintendent



കേരള ഹെൽത്ത് റിസർച്ച് & വെൽഫെയർ സൊസൈറ്റി (ഒരു കേരള സർക്കാർ സ്ഥാപനം)

നമ്പർ :

നോട്ടീസ്

തീയതി :

**ജനറ്റിക്സ് & മോളിക്യുലാർ ബയോളജി ലാബ് ഒരുക്കുന്നതുമായി
ബന്ധപ്പെട്ട് താല്പര്യപത്രം ക്ഷണിക്കുന്നത് - സംബന്ധിച്ച്.**

സർക്കാർ ആശുപത്രികളിൽ എത്തിച്ചേരുന്ന രോഗികൾക്ക് മെച്ചപ്പെട്ട സേവനങ്ങൾ ലഭ്യമാക്കുന്നതിന് വേണ്ടി കേരള സർക്കാർ ഉടമസ്ഥതയിലും നിയന്ത്രണത്തിലും ആരംഭിച്ച സ്ഥാപനമാണ് KHRWS. KHRWS-ന്റെ ആഭിമുഖ്യത്തിൽ സംസ്ഥാനത്തെ വിവിധ മെഡിക്കൽ കോളേജുകളിലും, ജില്ലാ, താലൂക്ക് ആശുപത്രികളിലും ACR ലാബുകൾ പ്രവർത്തിച്ചുവരുന്നുണ്ട്. ജനറ്റിക്സ് & മോളിക്യുലാർ ബയോളജി മേഖലയിൽ പരിശോധന സൗകര്യങ്ങൾ വിപുലപ്പെടുത്തുന്നതിനായി തിരുവനന്തപുരം മെഡിക്കൽ കോളേജ് ആശുപത്രിയോടനുബന്ധിച്ച് ഒരു ആധുനിക ജനറ്റിക്സ്, മോളിക്യുലാർ ബയോളജി & വൈറോളജി ലാബ് ഒരുക്കാൻ KHRWS നടപടികൾ സ്വീകരിച്ചു വരികയാണ്.

ഇതിനായി കെട്ടിട സൗകര്യങ്ങൾ ഇതിനകം ഒരുക്കി കഴിഞ്ഞിട്ടുണ്ട്. ലാബിനാവശ്യമായ ഉപകരണങ്ങളും മറ്റു സൗകര്യങ്ങളും, റീഫ്ളജ്റുകളും, റെൻൽ റേറ്റ് കോൺട്രാക്ട് പ്രകാരം ലഭ്യമാക്കാൻ കഴിയുന്നവ അപ്രകാരവും അല്ലാത്തവ വിലയ്ക്കും ലഭ്യമാക്കി, ഇൻസ്റ്റലേഷനും കമ്മീഷനിങ്ങും നടത്തി NABL അക്രഡിറ്റേഷൻ ആവശ്യമായ നടപടിക്രമങ്ങൾ പൂർത്തിയാക്കി, അപ്രകാരം അക്രഡിറ്റേഷൻ ലഭ്യമാകുന്നതുവരെ സാങ്കേതിക സഹായം നൽകി ലാബ് സെറ്റ് ചെയ്യുന്നതിന് തയ്യാറുള്ള വിദഗ്ധരിൽ നിന്നും സ്ഥാപനങ്ങളിൽനിന്നും താല്പര്യ പത്രം ക്ഷണിക്കുന്നു.

താല്പര്യമുള്ളവർ 22.01.2024-നുള്ളിൽ MD, KHRWS, ജനറൽ ആശുപത്രി ക്യാമ്പസ്, റെഡ് ക്രോസ് റോഡ്, തിരുവനന്തപുരം എന്ന വിലാസത്തിൽ താല്പര്യ പത്രം സമർപ്പിക്കാൻ താല്പര്യപ്പെടുന്നു. ആവശ്യമായ ഉപകരണങ്ങളും റീ ഏജ്റുകളും മറ്റു സൗകര്യങ്ങളും സംബന്ധിച്ച വിശദവിവരങ്ങൾ ഇതോടൊപ്പം നൽകുന്നു.

മാനേജിംഗ് ഡയറക്ടർ

List of Equipments to be purchased

Sl. No.	Item Description	Quantity
1	Biosafety cabinet	2
2	Laminar Air flow	2
3	Micro centrifuge	3
4	Dry bath	2
5	Vortex shaker	3
6	PCR Spinner	1
7	Mini centrifuge	2
8	Deep Freezer(-20 C)	1
9	Deep Freezer (-80 C)	1
10	Laboratory Refrigerator	3
11	Vertical Autoclave	1
12	Calibrated variable micropipettes 0-10ul, 20-200 ul,100-1000 ul	3 set
13	Calibrated variable micropipettes 0.5-10 ul, 20-20ul,20-200ul ,100-1000ul	3 set
14	Micropipette stand	4
15	1.5ML micro centrifuge tube stand	4
16	500 ml beaker	10
17	0.2 ML PCR tube rack	1

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LIST OF CONSUMABLES (Purchase)

Sl. No.	Item Description	Quantity
1	Head cap	As per the requirement
2	Sterile Nitrile Gloves	As per the requirement
3	Face mask	As per the requirement
4	Apron	As per the requirement
5	Tissue roll	As per the requirement
6	PPE Kits	As per the requirement
7	Alcohol based hand rub solution	As per the requirement
8	PCR optical strip tubes and caps 0.2ml	As per the requirement
9	1.5ml micro centrifuge tube	As per the requirement
10	Dustbins as per BMW guidelines	20

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LIST OF EQUIPMENTS ON REAGENT RENTAL BASIS

1. Real time PCR System - 2 numbers
2. Automated Nucleic acid Extractor-2 members

Note: The machines mentioned above (1&2) should be on reagent rental basis and the supplier should be able to supply the PCR reagents mentioned in the list of Reagents. These machines should strictly follow the specifications mentioned in the page of Technical Specifications.

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LIST OF REAGENTS

Sl. No.	Item Description	Quantity
1	DNA and RNA universal Extraction Kit (Compatible with Magnetic Bead based Automatic Nucleic acid extraction system)	As per the requirement
2	HCV Quantitative Real Time PCR Kit	As per the requirement
3	HBV Quantitative Real Time PCR Kit	As per the requirement
4	HIV-1 Quantitative Real Time PCR Kit	As per the requirement
5	BCR-Abl1 Quantitative Real Time PCR Kit	As per the requirement
6	PML-RARA Quantitative Real Time PCR Kit	As per the requirement
7	BRAF Real Time PCR Kit	As per the requirement
8	JAK2 Mutation PCR Kit	As per the requirement
9	KRAS Mutation Real Time PCR Kit	As per the requirement
10	HPV 16/18 Real Time PCR Kit	As per the requirement
11	CMV Quantitative Real Time PCR Kit	As per the requirement
12	Malaria Real Time PCR Kit	As per the requirement
13	HCV Genotyping Kit	As per the requirement
14	Dengue-Chikungunya Real Time PCR Kit	As per the requirement
15	EGFR Real Time PCR Kit	As per the requirement
16	FLT3-TKD Real Time PCR Kit	As per the requirement
17	Fragile X FMR1 & FMR2 Real Time PCR Kit	As per the requirement
18	MTHFR Real Time PCR Kit	As per the requirement
19	Y chromosome Micro deletion PCR Kit	As per the requirement
20	Respiratory Panel Kit	As per the requirement
21	MTB/NTM Detection Kit	As per the requirement
22	HSV Real Time PCR Kit	As per the requirement
23	Bacterial Meningitis Panel Kit	As per the requirement
24	Neonatal Meningitis Panel Kit	As per the requirement
25	Viral Meningitis Panel Kit	As per the requirement

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TECHNICAL SPECIFICATION

1. Automated DNA RNA Extraction system
2. Should be a bench top analyzer with built in control unit and touch screen.
3. Should be able to perform 32 samples/ run with Magnetic beads particle technology. Also, should provide the provision of single test run without wastage of consumables used.
4. Should be ensuring high purity by using newly developed magnetic rods and dynamically adjustable amplitude technology.
5. Should be used disposable strip tips and UV sterilizing lamp to avoid pollution amount different batches.
6. Should have rapid extraction facility by quickly finish the extraction of 32 samples in 15 to 35 minutes.
7. Instrument should be delivered with preloaded application and also have facility to edit running programs according to different requirements and also have provision of adjusting Mixing with Multiple-speed.
8. Should have facility for deep well heating to reduce temperature difference between preset temperature and actual in tube temperature.
9. Should be able to perform sample range of 20ul to 1000ul, also able to use different specimens as whole blood, plasma, serum, fresh-frozen tissue, cultured cells, urine, swabs, sputum, CSF, BAL, fecal.
10. Should have self-test facility and startup time should be less than 2 minutes.
11. Supplier should be provided Single and multiple Prefilled kits suitable for Viral, Bacterial, Fungal and Human Nucleic acids which is ready to use.

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12. Should have anti contamination facility with UV light with adjustable timing.

13. Should be work with 100 to 250V with less than 400W Power consumption.

(2)Real Time PCR System

1. The temperature management should be based on ferrotecpeltier technology.
2. The system should be Bench top peltier based 48 well Real-Time PCR.
3. The detection principle should be Bottom Detection based.
4. System should offer minimum 10 excitation and 10 emission filters with fast amplification and fixed optics along with fixed excitation and detection wavelength for detection of FAM, SYBR Green (Excitation: 445 – 485 nm; Detection: 515 – 535 nm), HEX, VIC, JOE, CY3, TAMRA (Excitation: 513 – 533 nm; Detection: 554 – 574 nm), ROX, TEXAS RED (Excitation: 561 – 581 nm; Detection: 602 – 622 nm), CY5, Quasar 670 (Excitation: 620 – 650 nm; Detection: 674.5 – 689.5 nm)
5. System should have at least 4 detection channels.
6. System should have a ramp rate of 3.5-4°C/sec.
7. System should shift to 4°C soon after the completion of assay.
8. Sample volume range 5-100 µl.
9. Temperature control precision should be $\pm 0.1^{\circ}\text{C}$.
10. Temperature uniformity should be $\leq \pm 0.3^{\circ}\text{C}$
11. Hot lid temperature range of 5-110°C.
12. Gradient temperature range should be there with three independent temperature control sections, temperature difference range 0.1-6°C.
13. System should have option for SNP analysis, melting curve genotyping, Mutation detection, copy number variation, Micro RNA and Non coding RNA analysis, Drug metabolism enzyme genotyping, Allelic discrimination,

Qualitative analysis, Absolute Quantification, Relative Quantification, Multiplexing.

14. The manufacturer should offer Real Time PCR kits for Oncology and Genetic markers, Infectious and Auto-immune markers.

15. Should come with latest version of compatible desktop/ laptop.

(3)BIOSAFETY CABINET

1. Size: 3*2*2
2. Vertical CLASS 1 Air flow.
3. Cleanliness class 100 with an efficiency of 99.9%.
4. Particle retention 0.2 microns and above.
5. HEPA filter quality compliance to FED : STD : 209 E and EN 779.
6. Pre filter quality compliance to IS 7613.
7. Bid should include standard accessories like static pressure manometer, HEPA filter for cabinet (deep pleat type), pre filter, one UV germicidal light for the work area, one cock for gas/air. Satin finished stainless steel perforated table top. Suitable motor with blower assembly for air supply, suitable motor with blower assembly for exhaust, 2 meters length PVC pipe of 6" diameter for exhaust air vent out.

(4)LAMIAIR AIR FLOW

1. Size: 2*2*2
2. Horizontal Airflow
3. Cleanliness class 100 with an efficiency of 99.9%.
4. Particle retention 0.3 microns and above.
5. HEPA filter quality compliance to FED : STD : 209 E and EN 779.
6. Pre filter quality compliance to IS 7613.
7. Should be equipped with U.V. germicidal light, fluorescent light, provided cock for gas / air, prefilter & HEPA filter, inclined pressure manometer.

(5)MICRO CENTRIFUGE

1. Safety Lid-lock,Over-speed,Over-current,Over-voltage protection & imbalance system.
2. LCD Screen displays the time and speed, convenient to set and read
3. Run time range of 0sec~99min.
4. Speed range of 500 rpm ~ 15000 rpm (RCF 15100g).
5. Capacity to handle 1.5-2 ml tubes.

6. Sound alert alarm and automatic open the lid after the rotor stops
7. Brushless DC motor free of maintenance
8. Speed accuracy: ± 20 rpmMax.

(6) DRY BATH

1. An operating range of ambient $+2^{\circ}$ to 100°C .
2. Digital temperature controls and display
3. Built-in temperature sensing probe for outstanding temperature accuracy ($\leq \pm 0.5^{\circ}\text{C}$) and uniformity ($\leq \pm 0.5^{\circ}\text{C}$)
4. Capacity to handle 1.5-2 ml tubes.

(7) VORTEX MIXER

1. Variable speed module.

(8) PCR SPINNER


1. Max speed of 6000 RPM.
2. Capacity to handle 0.2 ml tubes.

(9) DEEP FREEZER

1. Temperature -80°C (at ambient temp: of 20°C) fitted with digital temperature display.
2. Controller cum indicator with special features of cascade functions and built in on delay.
3. Equipped with CFC free IMPORTED compressor and refrigerant.
4. Volume: 100 L.

(10) DEEP FREEZER

1. Temperature -20°C (at ambient temp: of 20°C) fitted with digital temperature display.
2. Controller cum indicator with special features of cascade functions and built in on delay.

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3. Equipped with CFC free IMPORTED compressor and refrigerant.

4. Volume: 100L

(11) LABORATORY REFRIGERATOR

1. Capable of maintaining 2-8°C.

(12) AUTOCLAVE

1. Vertical.

2. Lid should be fitted with pressure gauge, safety valve (adjustable spring loaded) and steam exhaust valve.

3. Automatic pressure cutoff system.

4. Automatic water level cutoff system.

5. Digital temperature controller cum indicator.

6. Volume 50-100 L.

(13) MINI CENTRIFUGE

1. Brushless DC (BLDC) Motor.

2. Max speed of 6000 RPM - 2000 x g - can process up to 8 micro tubes of 1.5/2 ml at a time.

3. Electronic brake for immediate stop on lid opening for user safety

4. Save time by doing quick runs by simple opening and closing the lid

5. Replaceable strip rotor & adaptors for 0.2 ml & 0.4/0.5 ml micro tubes.

6. Settable speed (up to 6000 RPM) and time (up to 99 minutes)