



**DEPARTMENT OF BIOCHEMISTRY  
UNIVERSITY OF KERALA, KARIAVATTOM 695 581**

April 11, 2022

BCH/VV/NBL/Non-Plan (stereotax) 2022-23

**QUOTATION NOTICE**

Sealed quotations are invited from authorized vendors for the following items. The technical and financial bid complete in all respects may be submitted in the name of **Dr. Viji Vijayan, Principal Investigator, Setting Up of Neurobiology Lab (Non-Plan Fund 2021-22), Department of Biochemistry, University of Kerala, Kariavattom Campus, Thiruvananthapuram, Kerala 695 581.**

*The sealed quotation should be subscribed with "Quotation under Reference No. ----- for item ----- under serial number".*

The quotations should reach not later than 4.00 PM on 25<sup>th</sup> April 2022. Quotations will be opened on 26<sup>th</sup> April 2022 at 11 AM in presence of the suppliers or their authorized agents.

**Serial Number and Name of Items:**

- I. Stereotaxic instrument (mouse) with microdrill, drill holder and syringe
- II. Small animal anesthesia machine
- III. Homeothermic blanket

**I. Technical specifications for Stereotaxic instrument (mouse) with microdrill, drill holder and syringe**

1. A three-dimensional coordinate system to locate small targets in the brain for minimal invasive surgery.
2. Should contain mouse adaptor and mouse ear bars.
3. Should hold the mouse head by a palate and incisor, and offers vertical regulation to make the head level or at certain angle.
4. The Vertical adjustable range should be from +10mm to -20mm, with 100µm resolution; Horizontal adjustable range of 43.5mm; Horizontal rotatable range of 35°.

5. The machine should have adaptors available for use with rats, monkeys, rabbits, guinea pigs.
6. The working distance for each 3-dimension is 80 mm with precise alignment to 0.1mm resolution.
7. The vertical direction should be 180° rotation and lock at any angles.
8. The horizontal direction should be 360° rotation and lock at any angles.
9. There should be laser engraved scales, darken rod and open U-shape frame make numerals easy to read.
9. The dual-lead screws should ensure stable and accurate manipulation.
10. The instrument should maintain accuracy and flexibility at different temperatures.
11. The instrument base and frame should be sturdy and should resist corrosion, wear and tear
12. An extended base plate (400mm x 255mm) should be available for various animals.
13. The instrument should have a unique anti-clockwise mark engraved in the knob signifying vertical operation for effortless.
14. The instrument should have a vertical lock and fixing knob is to be separated to ensure accurate position at any angle.
15. The instrument should have a precise designed the lateral rotation operating space, the distance between knob and the U-shaped frame is 28mm.
16. The instrument should have a curve design of nose clamp to secure the head of the animals more steady.
17. The instrument should use plate pressing rather than clamping in locking the Ear bar, to ensure stability.
18. The instrument should have provision to attach syringe pump, microcamera and drill.
19. A high speed drill should be provided for implanting electrode, cannula, microdialysis probes etc
20. The drill should have speed up to 38,000 rpm
21. Forward and reverse rotation should be available in the drill
22. The drill should be able to be controlled manually or by foot paddle
23. Drill bits should be available of sizes 0.5 – 2.3 mm
24. A package of additional drill bits of 1.2 mm should be provided
25. Five and Ten microlitre syringes of 26S gauge in point style 2 should be provided.
26. Warranty: 3 years

## **II. Technical specification for small animal anesthesia machine**

1. The instrument for inhalation of anesthesia for mice should weigh less than 2.2 kg.
2. The instrument should be a non-rebreathing anesthetic delivery system.
3. Isoflurane or Sevoflurane vaporizer and Pour-fill or Easy-fill style available. ✧
4. The push button O2 Quick Flush should purge induction chamber at the rate of at least 1000cc/min before removing animals.
5. The Toggle switch should allow convenient and fast switch of gas flow between induction chamber and anesthesia masks (breathers).
6. Provision should be available for oxygen or air as the gas supply.

7. The vaporizers should ensure stable and accurate anesthesia delivery and should be unaffected by flow rate, temperature variations, duration of use, liquid level or back pressure fluctuation within its allowed range.
8. The instrument should have at least 120 ml liquid capacity.
9. The instrument should have gas flow rate reading from 0-4000cc/min.
10. Should have provision to add more flowmeters to fits for more animals or different applications.
11. Should have a portable stand with 5-leg spider base and according Universal Dual E-Tank Manifold optional.
12. The instrument should have anesthesia pump (220 V)
13. The instrument should have a stereotaxic mask (active) for mouse
14. The instrument should have anesthesia induction chamber
15. The gas evacuation apparatus with weight monitoring should have two levels alarm (990g and 1010g), indicator light and buzzer remind to change the canister and maintain its effectiveness and should accommodate waste gas supply from up to 5 masks with no venting hood.
16. The gas filter canister should be large (pkg of 6 pieces)
17. Warranty: 3 years

### **III. Technical specification for homeothermic blanket**

1. Should have a large color LCD touch screen
2. Should be easy to operate
3. Should have a real-time display of measuring temperature, setting temperature, heating state, running state, fault warning and other functions.
4. Should have real-time monitoring of heating pad and probe temperature, with circuit control to achieve dual safety protection.
5. Should have double channel display interface, which can keep two animals warm at the same time and operate independently.
6. Should have a display the working status progress bar of heating pad in real time, and monitor the working status of channel: idle, warning, standby and working.
7. Should show fast temperature rise, high temperature control precision, set range of 20-45°C, resolution of 0.1 °C, and can be switched between Celsius and Fahrenheit
8. Should have various alarm information can be set, such as high and low limit temperature ( $\pm 1$  °C), maximum temperature (50 °C), probe, heating pad, sound and indicator light that can be freely opened and closed, and can choose one-button operation.
9. Should have a high sensitivity temperature probe, diameter 1.5mm, rod length 30mm, line length 150cm.
10. Should have silica gel heating pad, high temperature resistant, easy to clean, with 3 different sizes and specifications of heating pad, suitable for different experimental platforms.
11. Power supply: 100-240 V, 50/60 Hz
12. Warranty: 3 years

### Terms and Conditions

- The price quoted should be applicable for educational institutions with GST 5%
- The items should have the warranty details
- Proper accessories have to be provided for power supply
- Operating manual has to be provided by the supplier.
- The supplier should show the authorization letter
- The supplier should show the compliance certificate indicating conformity to the technical requirements.
- Performance certificate of the specified model should be attached with the quotation
- Only one model can be quoted in a tender, otherwise it will be summarily rejected. The tenderer can quote more than a model as separate tenders.
- Prices are to be quoted FOR destination (Department of Biochemistry, University of Kerala). The prices quoted should indicate the 4 following charges: Price of the equipment including taxes, Price of optional accessories if any, Customs duty if any (after submission of custom and excise exemption certificate, Customs clearance charges, transportation charges and installation charges. If these are not provided separately it will be considered that the price quoted will be inclusive of all charges
- After receipt of instrument by Department of Biochemistry, University of Kerala, the supplier should install the equipment. Payment will be made after successful installation of the equipments.
- Training on how to use the equipment and troubleshooting should be provided free to two persons at the time of installation.
- If any of the components are found to be defective during the warranty period, the vendor has to replace the item immediately at their own cost
- The spare parts of the instruments should be available with the supplier
- The service provider for the instrument should be available in Thiruvananthapuram district and should provide immediate service which should in no way exceed beyond 24 hours
- The PI has the right to reject any or all of the tenders without assigning any reason thereof.
- Compliance data sheet and brochure of product should be provided
- **Earnest Money Deposit (EMD):** EMD calculated @ 1% of the Purchase Assessment Cost (PAC-excluding GST) should be paid by the firm. The EMD should be remitted byway of Demand Draft drawn in favour of **'The Finance Officer, University of Kerala' payable at 'SBI, University Office Campus, Palayam'** and to be submitted along with sealed quotations. The tenders without EMD or exemption certificate (if applicable) will be rejected.

Sd/-

**Dr. VIJI VIJAYAN**

**Principal Investigator**

**Setting Up a Neurobiology Lab**

**Department of Biochemistry**