

Tender notification for Lung on Chip Setup with microfluidics

Tender Number: (DBG/DKS/IISc/01/2026)

Global Tender

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Section 1: Bid Schedule

1	Tender Number	DBG/DKS/IISC/01/2026
2	Tender Date	09/01/2026
3	Item Description	Lung on Chip Set up with Microfluidics
4	Tender Type	Two bid system: (a) Technical Bid (Part A) (b) Commercial Bid (part B)
5	Place of tender submission	Attention: Prof. Deepak K Saini, Department of Developmental Biology & Genetics, Indian Institute of Science Bengaluru - 560012,
6	Last Date and Time for tender submission	2nd February 2026
7	Primary Point of Contact	Prof. Deepak K Saini, Department of Developmental Biology & Genetics Indian Institute of Science Bengaluru -560012, India Email: deepaksaini@iisc.ac.in

The procurement of **Lung on Chip Set up with Microfluidics** at the Department of Developmental Biology & Genetics (DBG) in the Indian Institute of Science, Bangalore. All interested vendors shall submit a response demonstrating their capabilities to produce the requested equipment to the primary point of contact.

Section 2: Eligibility Criteria

Prequalification criteria:

1. The bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per -Annexure 4.
2. The Bidder must not be blacklisted/banned/suspended or have a record of any service-related dispute with any organization in India or elsewhere. A declaration to this effect has to be given as per Annexure 3.
3. System Catalogue should be produced with the Technical Bid. Original Invoice, Original Warranty Certificate, and Original Test Reports should be produced for all imported items from OEM (Original Equipment Manufacturer) at the time of supply of equipment.
4. Manufacturers should have ISO or equivalent international standard certificate. Please attach the required certificate with the bid.
5. The supplier will support the user with all the spares for a minimum period of 5 years.
6. Details of experienced service engineers including contact details should be provided in the tender document.

Section 3: Terms and conditions

(A) Submission of Tender

1. All documentation in the tender should be in English.
2. Vendors will be required to submit a technical proposal and a commercial proposal in **two separate sealed envelopes** (two bid systems). The technical bid should contain all commercial terms and conditions, except the price. **Only vendors who meet the technical requirement will be considered for the commercial discussion.**
3. **The technical bid** (Part A) must contain a point-by-point technical compliance document. The technical proposal should contain a compliance table with 5 columns.
 - a. The first column must list the technical requirements, in the order that they are given in the technical requirements below.
 - b. The second column must provide the specification of the instrument against the requirement (please provide quantitative responses wherever possible)
 - c. The third column should describe the compliance with a “YES” or “NO” only. Ensure that the entries in column 2 and column 3 are consistent.
 - d. The fourth column should clearly state the reasons/explanations/context for deviations if any.
 - e. The fifth column may contain additional remarks. It can be used to highlight the technical features, qualify the response of previous columns, or provide additional details.
4. **The commercial bid** (Part B) – Indicating item-wise price for the items mentioned in the technical bid, **as per the format of quotation provided in the tender**, and other commercial terms and conditions. The commercial bid should indicate the following separately: (a) equipment price (b) optional items (c) Shipping cost and (d) the Total cost.
5. The technical bid and price bid should each be placed in separate sealed covers, super scribbling on both the envelopes a tender no. and the due date. Both these sealed covers are to be placed in a bigger cover which should also be sealed and duly superscripted with the Tender No, Tender Description & Due Date.
6. The SEALED COVER super scribbling tender number / due date & should reach Department of Developmental Biology & Genetics, Indian Institute of Science, Bangalore – 560012, India on or before the due date mentioned in the tender notice. In case the due date happens to be a holiday the tender will be accepted and opened on the next working day. If the quotation cover is not sealed, it will be rejected.
7. All queries are to be addressed to the person identified in “Section 1: Bid Schedule” of the tender notice.
8. GST/other taxes, levies etc., are to be indicated separately. The BIDDER should mention

GST Registration and PAN in the tender document (Indian Bidders only).

9. In addition to that listed in the technical table that the vendor would like to bring to the attention of the committee, such as data sheets, technical plots etc. must be listed at the end of the compliance table. The committee will go through the data provided and those available in their website to evaluate the suitability.
10. The decision of the purchase committee will be final. The Institute reserves the right to accept or reject any bid or to annul the bidding process and reject all bids, at any time before the award of the contract without thereby incurring any liability of the affected bidder or bidders.
11. Only the Original Equipment Manufacturer or their authorized representatives across the globe shall participate in the bid.
12. The order will be placed only on the bidder who participated in the bid.

(B) Cancellation of Tender

Notwithstanding anything specified in this tender document, IISc Bangalore, in its sole discretion, unconditionally and without having to assign any reason, reserves the rights:

- a. To accept OR reject the lowest tender or any other tender or all the tenders.
- b. To accept any tender in full or in part.
- c. To reject the tender, offer not confirming to the tender terms.

(C) Validity of the Offer

The offer shall be valid for at least 90 Days from the date of opening of the commercial bid.

(D) Evaluation of the Offer

1. The technical bid (Part A) will be opened first and evaluated.
2. Bidders meeting the required eligibility criteria as stated in Section 2 of this document shall only be considered for Commercial Bid (Part B) opening. Further, agencies not furnishing the documentary evidence as required will not be considered.
3. Pre-qualification of the bidders shall not imply final acceptance of the Commercial Bid. The agency may be rejected at any point during technical evaluation or commercial evaluation. The decision regarding acceptance and/or rejection of any offer in part or full shall be the sole discretion of IISc Bangalore, and the decision in this regard shall be binding on the bidders.
4. The award of the contract will be subject to acceptance of the terms and conditions stated in this tender.
5. Any offer which deviates from the vital conditions (as illustrated below) of the tender is liable to be rejected:
 - a. Non-submission of complete offers.
 - b. Receipt of bids after the due date and time and or by email/fax (unless specified otherwise).
 - c. Receipt of bids in open conditions.
6. In case any BIDDER is silent on any clauses mentioned in these tender documents, IISc Bangalore shall consider that the BIDDER had accepted the clauses as of the tender and no further claim will be entertained.
7. No revision of the terms and conditions quoted in the offer will be entertained after the last date and time fixed for receipt of tenders.
8. The lowest bid will be calculated based on the total price of all items tendered for Basic equipment along with accessories selected for installation, operation, preprocessing and post-processing, optional items, recommended spares, warranty, and annual maintenance contract.

(E) Pre-requisites:

The bidder will provide the prerequisite installation requirement of the equipment along with the technical bid.

(F) Warranty:

The complete system is to be under a warranty period of **a minimum of 3 year** from the date of delivery, including a free supply of spare parts and online assistance. If the instrument is found to be defective, it must be replaced or rectified at the cost of the bidder within 30 days from the date of receipt of written communications from IISc Bangalore. If there is any delay in replacement or rectification, the warranty period should be correspondingly extended.

(G) Purchase Order:

1. The order will be placed on the bidder whose bid is accepted by IISc based on the terms & conditions mentioned in the tender document.
2. The quantity of the items in the tender is only indicative. IISc, Bangalore reserves the right to increase /decrease the quantity of the items depending on the requirement.
3. If the quality of the product and service provided is not found satisfactory, IISc Bangalore reserves the right to cancel or amend the contract.

(H) Delivery and Installation

The bidder shall provide the lead time to delivery, installation and made functional at IISc Bangalore from the date of receipt of the purchase order. The system should be delivered, installed, and made functional **within 3 months** from the date of receipt of the purchase order. The supply of the items will be considered as effected only on satisfactory installation and inspection of the system and inspection of all the items and features/capabilities tested by the IISc, Bangalore. After successful installation and inspection, the date of taking over the entire system by the IISc, Bangalore shall be taken as the start of the warranty period. No partial shipment is allowed. The technical installation personnel/engineer, who will perform the installation, must possess proof of a training certificate from the manufacturing company/factory/principal, which should be submitted along with the tender offer.

(I) Payment Terms:

100% payments (except AMC) will be released after completion of delivery and satisfactory installation subject to TDS as per rules. As per GFR, no advance payment can be made to the authorized Indian distributors unless an equal amount of bank guarantee is provided.

(J) Statutory Variation:

Any statutory increase in the taxes and duties after the bidder's offer, if it takes place within the original contractual delivery date, will be borne by IISc, Bangalore subject to the claim being supported by documentary evidence. However, if any decrease takes place the advantage will

have to be passed onto IISc, Bangalore.

(K) Disputes and Jurisdiction:

Any legal disputes arising out of any breach of contract about this tender shall be settled in the court of competent jurisdiction located within the city of Bangalore, India.

(L) General:

1. All amendments, time extensions, clarifications etc., within the period of submission of the tender will be communicated electronically. No extension in the bid due date/time shall be considered on account of delay in receipt of any document(s) by mail.
2. The bidder may furnish any additional information, which is necessary to establish capabilities to complete the envisaged work. It is, however, advised not to furnish superfluous information.
3. The bidder may visit the installation site before submission of the tender, with prior intimation.

Any information furnished by the bidder found to be incorrect, either immediately or at a later date, would render the bidder liable to be debarred from tendering/taking up of work in IISc Bangalore.

Section 4: Technical Specifications

Technical specifications of Lung on Chip Setup with microfluidics

i). Piezo based Pressure-driven controller with 4 channels (preferred) 2 channels (minimum)

- 4/ 2 channels pressure and flow control unit with channels having the pressure range of 0-2000 mbar
- The Pressure controller should offer stability, sensitivity, and reactivity for microfluidic flow control within a compact design.
- This instrument should have a piezoelectric regulators to enable a flow control that should be highly precise (about 20 times down to 0.006% of the range, extremely stable (0.005% of the range), and about 10 times faster (response time down to 35 ms) than a regular flow controller available on the market.
- Having a responsiveness which is virtually independent of the sample size will be preferable.
- All the pressure channels should have independent controls for pressure and flow control.
- All the pressure channels should be controlled by the same software interface
- Additionally provision to be provided for advanced users to develop their own software through the provided SDK (C++, Labview®, Matlab®, Python).

ii) Microfluidic flow sensors (2Nos)

- 1 unit of Digital flow sensor with a flow rate of 2.4-80 $\mu\text{L}/\text{min}$ with 5% accuracy for aqueous solutions
- 1 unit of Digital flow sensor with a flow rate of 0.04-1 mL/min with 5% accuracy for aqueous solutions

iii) Distribution and Recirculation valve kit

- 1 Unit of 12/1 port automated distribution valve with Internal volume of 3.5 μL – No/negligible dead volume
- Should have a switching time (average) of 156 ms - Wetted materials
- Delrin Plug 1/4-28 flat bottom (x11)
- PTFE Tape for Sealing
- One unit of 6 ports/2 positions Recirculation valve to enable fluid to be recirculated in a closed loop, for long term experiments (up to 7 days or more),
- The Recirculation valve should enable precise sample injection and versatility with its high biological and Chemical compatibility (PCTFE – PTFE material).
- It should allow the flow in a closed loop with little to no dead volume. Including appropriate fittings and connector

iv) Microfluidic Chip set up

- 10 Units of Microfluidic chips (Membrane Chip 480) & 10 Units of Cross flow Microfluidic chips (Membrane Chip 480) open with tape for sealing to be provided

v) High Speed Camera features

Sensor type	Monochrome or color
Horizontal full Resolution	Not less than 1280 pixels
Vertical full resolution	Not less than 1000 pixels
Pixel Size (microns)	10µm or smaller
Quantum Efficiency	> 60% at 630nm or better
Fill factor	80%
Frame rate (fps)	Minimum 1,000 fps @ full resolution 1280 X 1024 pixels
Dynamic Range (ADC)	12-bit monochrome
Internal Recording Memory	4 GB or more
Class Leading Light Sensitivity	ISO 12232 Ssat Standard, ISO 10,000 monochrome using Tungsten
Camera mount	C Mount
Trigger Inputs	Selectable +/- TTL 5V and switch closure
Trigger Delay	Programmable on selected input / output triggers: 100ns resolution
External Sync	+/- TTL 5Vp-p Variable frequency sync
Camera Control Interface	High-speed Gigabit Ethernet
Low Light Mode	Operation at minimum frame rate with separately adjustable shutter time to allow easy camera set-up and focus in ambient lighting
Software	Capable of controlling the camera parameters such as resolution, trigger delay, exposure time, live viewing the region of interest, data transfer from camera to computer, basic image operation
Image Data Display	Frame rate, shutter speed, trigger mode, date/time, status, real time / IRIG time, frame count, resolution

Saved Image Formats	BMP, TIFF, JPEG, PNG, RAWW, MRAW, AVI, MOV
Supported OS	Microsoft Windows operating system including: 10 and above

Required Consumables and Accessories for above Lung on chip set up (to be quoted separately)

- All necessary tubing and fittings with Microfluidic air flow cleaner kit should be included.
- Kit fittings starter pack to connect all the parts together, the pressure controller to the pressure compressor, the Pressure controller to the reservoirs, the reservoirs to the chip.
- Reservoir tank kits, 50 mL, 2 ports, for pressure up to 8 bar. Quantity: 2
- Reservoir tank kits, 15 mL, 2 ports, for pressure up to 8 bar. Quantity: 6
- Reservoir tank kits, 1.5 mL, 2 ports, for pressure up to 8 bar. Quantity: 4
- All the necessary tubings and fittings with connectors for the 12/1 ports distribution valve and 6/2 ports should be included in the quote -Quantity: 3
- Kit fittings 1/4"-28 Male to Barb 3/32" - Quantity: 2
- Male Mini Luer Connector- Fuidic 331 (For 1/16" OD)- Quantity: 1
- Kit Manifold 13 Ports: Manifold body 13-port 1/4-28 thread for 1/16 OD tubing- Quantity: 2
- Kit Tubing Flow Resistance 4 - 100 mm- Quantity: 1
- Kit Tubing 1/32"OD to 1/16"OD Adapter Sleeves + 1/32"OD Tubing- Quantity: 1
- Tubing Pneumatic 4mm- Quantity: 1

Section 5- Technical Bid

The technical bid should furnish all requirements of the tender along with all annexures in this section and submitted to

Attn. Prof. Deepak K Saini,
Department of Developmental Biology & Genetics
Indian Institute of Science
Bengaluru -560012, India
Email: deepaksaini@iisc.ac.in

Annexure-1:

Details of the Bidder

The bidder must provide the following mandatory information & attach supporting documents wherever mentioned:

Details of the Bidder

Sl. No Items Details

1. Name of the Bidder
2. Nature of Bidder (Attach attested copy of Certificate of Incorporation/ Partnership Deed)
3. Registration No/ Trade License, (attach attested copy)
4. Registered Office Address
5. Address for communication
6. Contact person- Name and Designation
7. Telephone No
8. Email ID
9. Website
10. PAN No. (attach copy)
11. GST No. (attach copy)

Signature of the Bidder

Name, Designation, Seal

Date

Annexure-2:

Declaration regarding experience

To,
Prof. Deepak K Saini,
Department of Developmental Biology & Genetics
Indian Institute of Science
Bengaluru -560012, India
Email: deepaksaini@iisc.ac.in

Ref: Tender No: DBG/DKS/IISc/01/2026

Dated: 12/01/2026

Supply and installation of Lung on Chip Set up with Microfluidics at Department of Developmental Biology and Genetics, IISc Bangalore.

Sir/Ma'am,

I've carefully gone through the Terms & Conditions contained in the above referred tender. I hereby declare that my company / firm has ---- years of experience in supplying and installing Super-resolution imaging microscopy system.

(Signature of the Bidder)

Name, Designation, Seal

Date

Annexure-3:

To,
Prof. Deepak K Saini,
Department of Developmental Biology & Genetics
Indian Institute of Science
Bengaluru -560012, India
Email: deepaksaini@iisc.ac.in

Declaration of the track record
Department of Developmental Biology & Genetics,
Indian Institute of Science, Bengaluru 560012, India

Ref: Tender No: DBG/DKS/IISc/01/2026

Dated: 12/01/2026

Supply and installation of Lung on Chip Set up with High Speed Camera at Department of Developmental Biology and Genetics, IISc Bangalore.

Sir,

I've carefully gone through the Terms & Conditions contained in the above referred tender. I hereby declare that my company/ firm is not currently debarred /blacklisted by any Government / Semi Government organizations/institutions in India or abroad. I further certify that I'm competent officer in my company/firm to make this declaration.

Or

I declare the following,

Sl.No.	Country in which the company is Debarred/blacklisted /case is pending Blacklisted/debarred by Government/Semi Government/Organizations /Institutions	Reasons	Since when and for how long
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(NOTE: In case the company / firm was blacklisted previously, please provide the details regarding the period for which the company / firm was blacklisted and the reason/s for the same).
Yours faithfully

(Signature of the Bidder)

Name Designation, Seal

Date

Annexure – 4:

Declaration for acceptance of terms and conditions

To,
Prof. Deepak K Saini,
Department of Developmental Biology & Genetics
Indian Institute of Science
Bengaluru -560012, India
Email: deepaksaini@iisc.ac.in

Ref: Tender No: DBG/DKS/IISc/01/2026

Dated: 12/01/2026

Subject- Supply and installation of Lung on Chip Set up with Microfluidics at Department of Developmental Biology and Genetics, IISc Bangalore.

Sir,

I've carefully gone through the Terms & Conditions as mentioned in the above referred tender document. I declare that all the provisions of this tender document are acceptable to my company. I further certify that I'm an authorized signatory of my company and am, therefore, competent to make this declaration.

Yours faithfully,

(Signature of the Bidder)

Name, Designation, Seal

Date

Annexure – 5:

Details of items quoted:

- a. Company Name
- b. Product Name
- c. Part / Catalogue number
- d. Product description / main features
- e. Detailed technical specifications
- f. Remarks

Instructions to bidders:

1. Bidder should provide technical specifications of the quoted product/s in detail.
2. Bidder should attach product brochures along with technical bid.
3. Bidders should clearly indicate compliance or non-compliance of the technical specifications provided in the tender document.

Section 6 – Commercial Bid

The bid should be furnished with all requirements of the tender with supporting documents as mentioned under:

Sl. No.	Description	Cat. Number	Quantity	Unit Price	Sub total
1.	Essential items noted in the technical specification				
1.a	... (details of essential items)				
1.b	...				
2.	Optional items noted in the technical specification				
2.a	... (details of optional items)				
2.b	...				
3.	Accessories for operation and installation				
4.	All Consumables, spares and software to be supplied locally				
5.	Warranty (1 year)				
6.	Cost of Insurance and Airfreight				

Any additional items

Sl. No	Description	Cat. Number	Quantity	Unit Price	Sub total

Addressed to

To,
Prof. Deepak K Saini,
Department of Developmental Biology & Genetics
Indian Institute of Science
Bengaluru -560012, India
Email: deepaksaini@iisc.ac.in

Section 7 – Checklist

(This should be enclosed with technical bid- Part A)

The following items must be checked before the Bid is submitted:

1. Sealed Envelope “A”: Technical Bid

1. Section 5- Technical Bid (each page signed by the authorized signatory and sealed) with the below annexures:
 - a. Annexure 1: Bidders details
 - b. Annexure 2: Declaration regarding experience
 - c. Annexure 3: Declaration regarding clean track record
 - d. Annexure 4: Declaration for acceptance of terms and conditions
 - e. Annexure 5: Details of items quoted.
2. Copy of this tender document duly signed by the authorized signatory on every page and sealed.

2. Sealed Envelope “B”: Commercial Bid Section

6: Commercial Bid

Your quotation must be submitted in two envelopes: Technical Bid (Envelope A) and Commercial Bid (Envelope B) super scribbling on both the envelopes with Tender No. and due date and both of these in sealed covers and put in a bigger cover which should also be sealed and duly super scribbled with Tender No., Tender description & Due Date.