

Procurement Specification for Magnetic Cell Separation System:-

1. Introduction

This document outlines the specifications for procuring a Magnetic Cell Separation System, also known as immunomagnetic cell separation or magnetic cell sorting. The system will be used for isolating stem cells and neutrophils from mouse bone marrow samples. The specification includes requirements for compatible reagents and accessories necessary to process approximately 100 samples.

2. Scope

The procurement includes:

- Magnetic Cell Separation System
- Compatible reagents and accessories
- Installation and training services

3. Technical Specifications

3.1 Magnetic Cell Separation System

- **Functionality:** The system should facilitate both positive and negative selection of cells using antibodies or ligands directed against specific cell surface antigens.
- **Target Cells:** Capable of isolating stem cells and neutrophils from mouse bone marrow.
- **Sample Capacity:** Efficiently handle and process samples.
- **Separation Efficiency:** High purity and yield of isolated cells with minimal contamination.
- **Automation:** Preferably automated or semi-automated to enhance reproducibility and reduce manual handling.
- **Compatibility:** Compatible with a wide range of commercially available magnetic beads and reagents.

3.2 Reagents and Consumables

- **Magnetic Beads:** Beads should be conjugated with antibodies or ligands specific to the target cell surface antigens.
 - **Stem Cell Isolation:** Beads specific to stem cell markers.
 - **Neutrophil Isolation:** Beads specific to neutrophil markers.
- **Buffer Solutions:** Required buffers for washing, labelling, and elution processes.
- **Sample Tubes:** Tubes compatible with the magnetic cell separation system.
- **Storage Requirements:** Specifications for proper storage of reagents to ensure stability and efficacy.

4. Performance Requirements

- **Purity:** Achieve a minimum purity of 99% for isolated stem cells and neutrophils.
- **Viability:** Cell viability should be maintained above 90% post-separation.
- **Throughput:** Capable of processing up to 4 to 6 samples simultaneously.
- **Recovery Rate:** High recovery rate with minimal cell loss.

5. User Requirements

- **Ease of Use:** User-friendly interface with clear instructions for operation and maintenance.
- **Training:** Comprehensive training for laboratory personnel on system operation and maintenance.
- **Technical Support:** Availability of technical support and troubleshooting assistance.

6. Installation and Training

- **Installation:** On-site installation by qualified technicians.
- **Training:** On-site training for laboratory personnel, covering system operation, maintenance, and troubleshooting.

7. Compliance and Certification

- **Regulatory Compliance:** The system should comply with relevant regulatory standards and guidelines for laboratory equipment.
- **Safety Standards:** Adherence to safety standards for laboratory use, including electrical and mechanical safety.

8. Warranty and Maintenance

- **Warranty:** Minimum three-year warranty covering parts and labour.
- **Maintenance:** Options for extended maintenance contracts and regular system check-ups.

9. Documentation

- **User Manual:** Detailed user manual including operating procedures, maintenance instructions, and troubleshooting guide.
- **Service Manual:** Service manual for technical support and repair.

10. Delivery Requirements

- **Lead Time:** Delivery lead time should be as per Jamia Hamdard, New Delhi norm.
- **Packaging:** Secure packaging to prevent damage during transportation.

11. Evaluation Criteria

- **Technical Compliance:** Evaluation of the system's compliance with the technical specifications.
- **Cost:** Total cost of ownership, including initial purchase price, reagents, and maintenance.
- **Vendor Reputation:** Assessment of vendor's experience, reliability, and customer service track record.
- **References:** Provision of references or case studies from other laboratories using the same system.

12. Proposal Submission

Vendors are required to submit the following:

- Detailed technical proposal outlining compliance with the specifications.
- Itemized cost breakdown.
- Delivery and installation timeline.
- Warranty and maintenance details.
- References or case studies.