LS Columns

L1520103

Storage Room temperature.
Shipping Regular transportation.

Introduction

Cell separation column is a specialized consumable designed for column-based cell sorting, developed specifically for the gentle isolation of cells labeled with nanomagnetic beads. Due to the extremely small size of the cell separation nanomagnetic beads (particle size: 50–100 nm), a high-intensity magnetic field is required to attract the labeled cells. The column contains an optimized matrix that, when used with a magnetic separation system, amplifies the magnetic field nearly ten-thousand-fold, enabling efficient capture and gentle elution of magnetically labeled cells. It is widely used for cell enrichment, depletion, and sorting in research and preclinical stages.

Product Components

Cat. No.	Product Name	Max. Load of Labeled Cells	Max. Total Cell Load
M1520097	MS Columns	1×10^7	2×10^8
L1520103	LS Columns	1×10^8	2×10^9

Note: When isolating cells larger than lymphocytes, the column capacity may be reduced.

Procedure

1. Column Preparation

(1) Column installation: Insert the separation column into a suitable magnetic stand, ensuring the column wings face forward. Place a collection tube at the column outlet.

(2) Column priming: Add 2mL of separation buffer to the column and allow it to flow through naturally.

(3) Discard flow-through: Replace the collection tube. The column is now ready.

2. Magnetic Separation

Magnetic labeling must be performed before magnetic separation. Refer to the nanomagnetic bead instructions for specific labeling methods.

(1) Cell suspension preparation: Resuspend cells in separation buffer, using 500 μL of buffer per 10^8 cells.

Note: For higher cell numbers, increase the buffer volume accordingly.

(2) Sample loading: Apply the cell suspension to the prepared column. Collect the flow-through containing unlabeled cells.

(3) Washing: Wash the column three times with 2 mL of separation buffer. Collect the unlabeled cells that pass through and combine them with the flow-through from step (2).

Note: Once the column reservoir is empty, immediately add the same volume of buffer for the washing steps.

(4) Remove the column and place it on a new collection tube.

(5) Elution: Add 5 mL of separation buffer to the column and use the supplied plunger to quickly elute the magnetically labeled cells.

Note: (Optional) To improve the purity of magnetically labeled cells, the eluted cells can be passed through a second LS column for re-sorting.

Precautions

1. The LS columns and matching plunger are supplied individually in sterile packaging. They are intended for single use and reuse is not recommended.
2. Prepare the separation buffer before the experiment: PBS (pH 7.2), 0.5% BSA, and 2 mM EDTA. Mix thoroughly and store at 4 °C.
3. Due to differences in samples and research objectives, optimal experimental conditions should be determined by the user.
4. This product is for research use only.
5. For your safety and health, please wear a lab coat and disposable gloves during operation.