EasySort™ MS Columns

Magnet for immunomagnetic separation

Cat.No: EC010 **Quantity: 1 Box**

Cat.	Products	Specification	
EC010	EasySort™ MS Columns	5 pcs/box	25 pcs/box
	Manual	One Copy	

Properties

Storage: The product should be stored at 15-35°C, protected from light and kept dry. Valid for 3 years.Columns are individually sterile-packaged, and are for single use only.

Total cell capacity: 1×10^6 - 2×10^8 cells; labeled cell capacity: 1×10^4 - 1×10^7 cells (Cell capacity is related to cell size, and the standard capacity of this column is based on the volume of lymphocytes. If the volume of the cells being sorted is larger than that of lymphocytes, the capacity might decrease).

Introduction

The Elabscience EasySort™ MS Columns are specifically designed for the gentle separation of cells labeled with magnetic microbeads.Since magnetic nanobeads are extremely small superparamagnetic particles, a high-gradient magnetic field is necessary to retain magnetically labeled particles. EasySort™ MS Columns contain optimized matrix particles that can generate the high-gradient magnetic field when placed in the matching MS separator.When column is placed in a strong, high-gradient magnetic field, the magnetically labeled cells are retained in the column due to the magnetic force as they pass through the column, while unlabeled cells flow out. The separated cells can be used directly in downstream experiments, including cell culture and flow cytometry analysis.

Consumables&Instruments

Reagents / Instruments	Description / Model
Buffer	Note: PBS containing Ca^{2+}or Mg^{2+} is not recommended.
MS Magnetic Pole	EasySort™-MiniSeparator（Cat：EC009）
Separation Support	EasySort™ MultiStand（Cat：EC006）

Experimental Operation

➢ Notes for Operation

a) To prevent cell aggregates from forming during incubation and clogging the sorting column, it is recommended to filter the cell suspension through a 70 μm cell strainer before loading it

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onto the column.

b) Be sure to rinse the column before use, and do not allow it to drain completely throughout the experiment, as air bubbles can clog the column.

c) During sample loading and each wash cycle, be sure to wait until the liquid in the column has completely drained (leaving only the last drop suspended beneath the bottom of the column membrane) before proceeding to the next step.

➢ **Preparation Before Operation**

a) Place the column in the magnetic field of Elabscience magnetic pole (Cat: EC009).

b) Place a collection tube below the column to collect the rinsing liquid.

c) Rinse the column with 500 µL of buffer.

Note: Be sure to rinse the column before separation, as air bubbles can clog the column and affect the separation efficiency.

d) When there are no continuous drops falling from the bottom of the column, discard the effluent and replace the collection tube with a new one.

Note: The column should be used immediately after rinsing. If the column dries out, adding a sample may generate air bubbles that can clog the column.

Be sure to wait until the liquid in the column has completely drained (leaving only the last drop suspended beneath the bottom of the column membrane) before proceeding to the next step.

➢ **Cell Isolation**

a) After incubation, add 500 µL isolation buffer and mix well to prepare for magnetic sorting.

Note: To prevent cell aggregates from forming during incubation and clogging the sorting column, it is recommended to filter the cell suspension through a 70 µm cell strainer before loading it onto the column.

b) Add the cell suspension prepared in step a). Wait until the liquid in the column has completely drained.

c) Wash three times with 500 µL isolation buffer.

Note: Be sure to wait until the liquid in the column has completely drained (leaving only the last drop suspended beneath the bottom of the column membrane) before proceeding to the next step.

d) Afterthe washing is completed, quickly remove the column from the magnetic field, add 1 mL isolation buffer, and immediately push the buffer out using the column piston, then collect the effluent. These are the target cells (containing magnetically labeled cells).

e) (Optional) If you need to increase the cell yield, slowly and completely withdraw the piston supplied with the column, then add another 1 mL isolation buffer, and immediately push the

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buffer out using the column piston, then collect the effluent. Mix the cell suspensions obtained from the two sorting runs; these are the target cells (containing magnetically labeled cells).

Note: Follow the instructions to control the total number of cells (no more than 2×10^8 for EasySort™ MS Columns); do not overload the column. If the total number of cells is too large, please pass them through the column in multiple batches.

Cautions

1. The product is for scientific research only, not intended for any diagnostic or therapeutic use.
2. The product is valid for 3 years and shall not guarantee the validity of expired products.
3. Ensure that all operations are performed under sterile conditions.
4. Do not use the column in combination with other magnetic particles larger than 50 nm, as the high magnetic forces may damage the sample.
5. It is recommended to filter and resuspend the cell suspension before performing magnetic isolation.
6. Cell suspensions or buffers with high adhesiveness may cause column clogging and affect separation efficiency. It is recommended to filter and dilute them before use.

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