Version：01
Update：09/21/2022

CytoSinct™ gM Columns

Catalog No.: D00007

Product Description

GenScript's CytoSinct™ gM Columns have been developed for gentle isolation of cells labeled with superparamagnetic CytoSinct™ Nanoparticles. Due to the extremely small size of the CytoSinct™ Nanobeads, high strength magnetic field is required to retain the labeled cells. The CytoSinct™ gM Columns contain an optimized matrix to generate a strong magnetic field when placed in a permanent magnet, such as the CytoSinct™ Magnet.

Product Specification

Capacity	1×10^7 magnetically labeled cells in 2×10^8 total cells. Recommended sample size for leukocytes: 10^4–10^7 labeled cells in 10^6–2×10^8 total cells. **Note**: Column capacity may decrease when separating cells larger than lymphocytes.
Components	Box of 25 individually packaged CytoSinct™ gM Columns and plungers, sterile.
Volume	Void volume: 60 µL. Reservoir volume: 3.5 mL.
Flow Rate	For 1x PBS containing 0.5% BSA (bovine serum albumin): 0.4–0.5 mL/ min.
Storage and Handling	Store columns dry at 10–35 °C and protected from light.
Application	CytoSinct™ gM Columns have been developed for positive selection of human and animal cells in combination with the CytoSinct™ Magnets and the CytoSinct™ Nanobeads. The CytoSinct™ gM Columns can also be used for depletion of cells.

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Note:

- Magnetic forces in the column are very high and may cause damage to cells if used with larger cell separation beads (recommended beads are the CytoSinct™ Nanobeads or similar nanobeads).
- CytoSinct™ gM Columns are not suitable for particles larger than 30 µm. If clumps and aggregates are present, filter through suitable filter.
- Samples or buffers with high viscosity may cause reduced column flow or column clogging.
- CytoSinct™ gM Columns are for single use only.

The Columns are “flow stop” and do not run dry

Required Materials

- **Isolation Buffer:** Prepare a solution containing phosphate-buffered saline (1x PBS), pH 7.2, 0.5% bovine serum albumin (BSA) and 2 mM EDTA. Keep buffer cold (2−8 °C). Degas the buffer before use, as air bubbles can cause blockage in the column.

  Note:

  - **Use degassed buffer only.** Degas the buffer by applying vacuum, preferentially with the buffer at room temperature. Excessive gas in the running buffer will form bubbles in the column matrix during separation. This may lead to clogging of the column and decrease the quality of separation.
- **CytoSinct™ Magnet and Stand** (Catalog. No. D00006)
  - For CytoSinct™ gM columns, use CytoSinct™ M1 (Cat. No. D00009) or M8 Magnet (Cat. No. D00010).

Instructions for Use

1. Prepare CytoSinct™ gM Columns

1.1 Remove the CytoSinct™ gM Column from its sterile package. For sterile work, perform all operations using sterile technique under a cell culture hood.

1.2 Insert the CytoSinct™ gM Column with the column wings pointed towards the front into a CytoSinct™ M1 or M8 Magnet.

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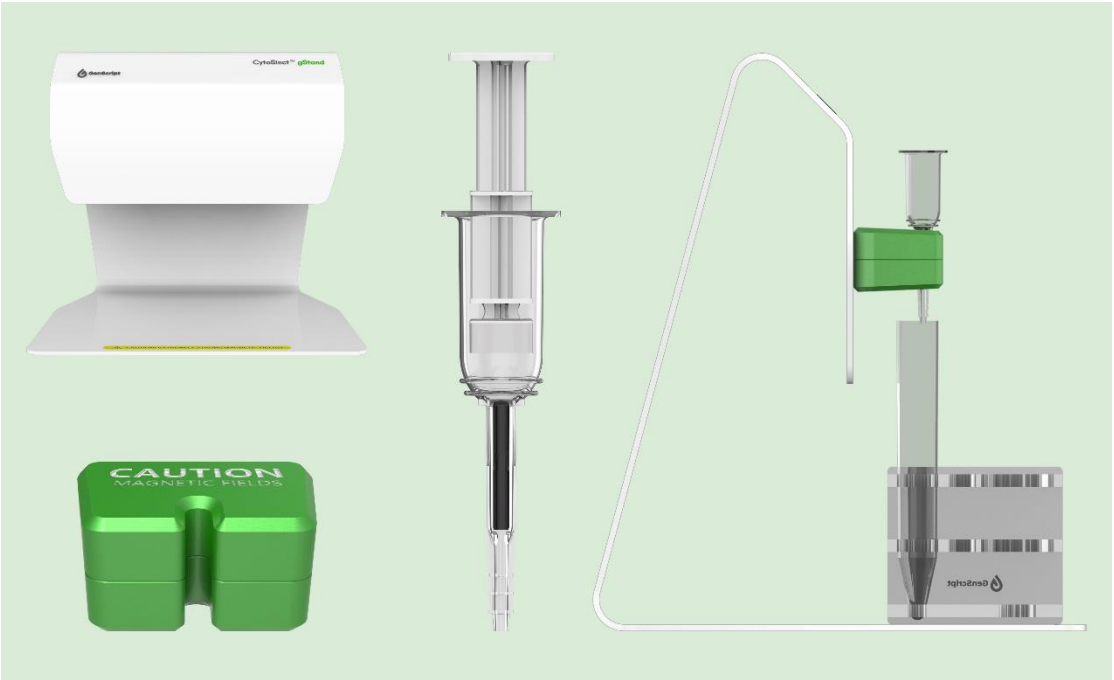

Attach the CytoSinct™ M1 or M8 Magnet to the CytoSinct™ gStand and place the CytoSinct™ gM Column in the magnet. Place a collection tube under the column.

1.3 Prepare the column by washing once with Isolation Buffer. Apply 500 µL of degassed buffer on top of the column and let the buffer run through. Discard the eluted buffer; the columns are now ready to use. Please wait until the column reservoir is empty before proceeding to the next step.

Note:

- Please use the CytoSinct™ gM column immediately after washing to avoid formation of air bubbles caused by warming up to room temperature. After the washing step, these columns **cannot** be stored for later use.

2. Magnetic separation using CytoSinct™ gM Columns

For details on magnetic labeling, refer to the CytoSinct™ Nanobeads manual (such as for example Cat. No. L00863 or L00864).

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2.1 Apply the cell suspension into a prepared CytoSinct™ gM Column and collect the unlabeled cells in the flow-through.

2.2 Wash the column with 500 µL of Isolation Buffer. Collect unlabeled cells in the flow-through. Repeat the washing step twice. Add new buffer when the column stops dripping.

2.3 When the column has stopped dripping after the last washing step, remove the column from the magnet and place it on a new tube of suitable size.

2.4 Pipette 1 mL of Isolation Buffer onto the column. **Immediately** flush out the magnetically labeled cells by firmly applying the plunger supplied with the column.

2.5 Cell count and other analyses can be carried out with the magnetically labeled cells in the eluted fraction.

2.6 (Optional) To increase the purity of the magnetically labeled fraction, the eluted fraction can be enriched over a second CytoSinct™ gM Column. Repeat the column preparation and magnetic separation procedures from steps 1-2 using a new column.

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