Multi-24 Column Blocks

Multi-24 Column Block Order no. 130-095-692
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Contents

1. Description

This product is for research use only.

Components	**Multi-24 Column Block (# 130-095-692):** 1× Multi-24 Column Block and 1×24-well Deep Well Plate, sterile packed or **Multi-24 Column Blocks (# 130-095-691):** 8× Multi-24 Column Blocks and 8×24-well Deep Well Plates, sterile packed.
Storage	Store columns dry at 10–35 °C and protected from light. The expiration date is indicated on the box label. Do not use after this date.

1.1 Principle of the MACS® Separation

MACS Technology is based on the use of MACS MicroBeads, MACS Columns, and MACS Separators.
First, the cells are magnetically labeled with the superparamagnetic MACS MicroBeads and the Multi-24 Column Block is placed in the strong permanent magnet of the MultiMACS™ Instrument Family. Then, the cell suspension is loaded onto the Multi-24 Column Block. The unlabeled cells run through while the magnetically labeled cells are retained within the Multi-24 Column Block. After transfer of columns to the MACS Elution Station magnetically labeled cells can be eluted from the column.

1.2 Background information

Multi-24 Column Blocks are designed for positive selection and depletion of magnetically labeled PBMCs from up to 24 samples in parallel with the MultiMACS Cell24 Separator Plus. Multi-24 Column Blocks are compatible with all MACS Cell Separation Reagents.
The column matrix of the Multi-24 Column Blocks is composed of ferromagnetic spheres, which are covered with a cell-friendly coating allowing fast and gentle separation of cells. When placed on the MultiMACS Instrument Family, the spheres amplify the magnetic field by 10,000-fold, thus inducing a high gradient within the column.

1.3 Technical specifications

One Multi-24 Column Block is a unit of 24 individual columns, enabeling up to 24 separations in parallel. This column block is designed to be used with the MultiMACS Instrument Family.

- Column capacity: 1×10^8 magnetically labeled cells from up to 1×10^9 total cells per single column.

  ▲ **Note:** Column capacity may decrease when separating cells larger than lymphocytes. Please refer to the respective MACS Cell Separation Reagent data sheet for column capacity of other cells than lymphocytes.
- Recommended sample size for leukocytes: 10^5–10^8 magnetically labeled cells in 10^7–1×10^9 total cells per single column.
- Columns are “flow stop” and do not run dry.
- Void volume: 250 µL. Reservoir volume: 5 mL.
- Typical flow rate for PBS (phosphate-buffered saline) containing 0.5% BSA (bovine serum albumin): 1.15–1.85 mL/min.
- Multi-24 Column Blocks are for single use only.
- A minimum of 12 columns must be used.

1.4 Applications

- Parallel positive selection or untouched isolation of cells using MACS Cell Separation Reagents.

1.5 Reagent and instrument requirements

- Buffer: Prepare a solution containing phosphate-buffered saline (PBS), pH 7.2, 0.5% bovine serum albumin (BSA), and 2 mM EDTA by diluting MACS BSA Stock Solution (# 130-091-376) 1:20 with autoMACS® Rinsing Solution (# 130-091-222). Keep buffer cold (2–8 °C). Degas buffer before use, as air bubbles could block the column.

  ▲ **Note:** The recommended buffer is PBS supplemented with EDTA and BSA. The suitability of other buffers has to be tested experimentally.

  ▲ **Note:** Use degassed buffer only! Degas buffer by applying vacuum, preferentially with buffer at room temperature. Excessive gas in running buffer will form bubbles in the matrix during separation. This may lead to clogging of the column and decrease the quality of separation.
- MACS MicroBeads for magnetic labeling of cells.
- MultiMACS Cell24 Separator Plus (# 130-098-637) or MultiMACS X (# 130-118-515).
- MultiMACS 5 mL Tube Rack (# 130-095-331) plus 24×5 mL round bottom collection tubes or 24-well Deep Well Plate (# 130-110-500).
- (Optional) Pre-Separation Filters (30 µm) (# 130-041-407) to remove cell clumps.
- Deep Well Plates, e.g., Single-well Deep Well Plates (# 130-114-966) or 2-well Deep Well Plates (# 130-120-010).

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2. Use of Multi-24 Column Blocks

⚠ CAUTION Do not place columns into the MultiMACS Cell24 Separator until the prompt screen **INSERT COLUMNS** appears to ensure that there are no moving parts when placing the columns. This will prevent injuries to fingers that can otherwise become trapped between the MultiMACS Cell24 Magnet and the MultiMACS Column Holder.

▲ Please refer to the MultiMACS Cell24 Separator Plus or the MultiMACS X user manual, respectively, for detailed information on using the MultiMACS Cell24 Separator with the Multi-24 Column Blocks for magnetic separation and elution procedure.

▲ The Multi-24 Column Blocks are not suitable for particles larger than 30 µm. To remove clumps and to prevent aggregates in the sample, resuspend material carefully and pass through 30 µm nylon mesh (Pre-Separation Filters (30 µm) # 130-041-407) before separation.

▲ Please use the following buffer volumes for the equilibration, wash, and elution of the Multi-24 Column Block.

Column type	Equilibration buffer	Wash buffer	Elution buffer
Multi-24 Column Block	1×2 mL	3×1 mL	1×1 mL

▲ If only half of the Multi-24 Column Block (12 columns) is used for a magnetic separation, the other half needs to be processed on the same day. Do not store half-used Multi-24 Column Blocks.

Refer to **www.miltenyibiotec.com** for all data sheets and protocols. Miltenyi Biotec provides technical support worldwide. Visit www.miltenyibiotec.com for local Miltenyi Biotec Technical Support contact information.

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