

Contents

1. Description
 - 1.1 The MACSiMAG™ Separator
 - 1.2 Applications
2. Technical specifications
3. Instructions for use of the MACSiMAG™ Separator
 - 3.1 Removal of MACSiBead™ Particles after activation or expansion of cells
 - 3.2 Depletion of cells magnetically labeled with MACSiBead™ Particles

1. Description

Components 1 MACSiMAG™ Separation Unit
1 Tube Rack for tubes from 0.5 mL to 5 mL in size

Storage Store instruments dry and below 50 °C.



▲ The MACSiMAG™ Separation Unit is equipped with an extremely powerful magnet. Its magnetic field can damage computers, watches, electronic storage media, and other objects sensitive to magnetic fields. Never allow the MACSiMAG Separation Unit to be closer than 30 cm to any magnetically sensitive object.

▲ **The MACSiMAG Separation Unit is for use with MACSiBead™ Particles only. It is not suitable for use with MACS® MicroBeads.**

▲ The MACSiMAG Separation Unit and the rack are sensitive to aggressive substances (e.g. acetone) and heat.

▲ Do not store the MACSiMAG Separation Unit under a corrosive atmosphere (e.g. in a chemical hood).

▲ The MACSiMAG Separation Unit and the rack can be cleaned with a soft cleansing tissue and a mild detergent. It can be disinfected using 70% ethanol.

1.1 The MACSiMAG™ Separator

The MACSiMAG™ Separator is designed for the removal of MACSiBead™ Particles from cell suspensions. Cells which have been activated or expanded by means of antibody-loaded MACSiBead Particles, or cells magnetically labeled with MACSiBead Particles for depletion, are placed in the extremely strong magnetic fields. Within a few minutes, the 3.5 µm sized MACSiBead Particles adhere to the tube wall. The supernatant containing the MACSiBead-depleted cells is subsequently removed.

1.2 Applications

Tubes from 0.5 mL to 50 mL in size can be placed in the magnetic field of the MACSiMAG Separation Unit. The larger conical tubes (13–15 mL or 50 mL) are directly inserted into the magnetic field of the MACSiMAG Separator, whereas tubes from 0.5 mL to 5 mL are inserted by means of the tube rack (for details, see section 3). Recommended sample volumes are listed in table 1.

Table 1: Recommended tube sizes for different sample volumes

Tube size	Tube rack position see section 3	Max. sample volume
0.5 mL	A	0.3 mL
1.5 mL	B	1 mL
2 mL	B	1.5 mL
5 mL	A or B	2 mL
13–15 mL conical tubes	-	10 mL
50 mL	-	40 mL

Examples of applications

- Removal of MACSiBead Particles after activation or expansion of cells, for example, when using the T Cell Activation/Expansion Kit, human (# 130-091-441), non-human primate (# 130-092-919), or mouse (# 130-093-627), or the NK Cell Activation/Expansion Kit, human (# 130-094-483).
- Depletion of cells labeled with MACSiBead Particles, for example, using the CD15 MACSiBead Kit, human (# 130-093-580) for depletion of CD15⁺ cells from whole blood, or Anti-Biotin MACSiBead Particles (# 130-091-147) for magnetic labeling of non-target cells which are labeled with biotinylated antibodies.
- Removal of endotoxins and DNA from purified protein preparations using Endotoxin Removal Beads (# 130-093-657).
- The tube rack is used in combination with tubes from 0.5 mL to 5 mL in size. In combination with tubes from 0.5 mL to 2 mL in size, the tube rack is also compatible with the MACSmix™ Tube Rotator (# 130-090-753) and can be used for protocol steps which require gentle rotation (e.g. loading of MACSiBead Particles with antibodies or magnetic labeling of cells with MACSiBead Particles for depletion).

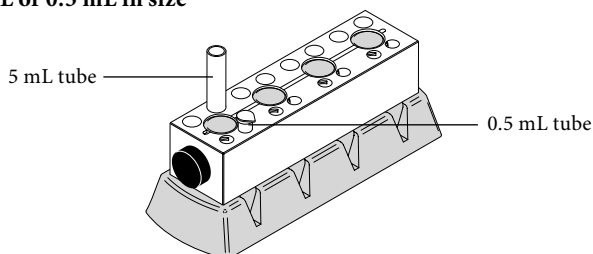
2. Technical specifications

- Weight of the MACSiMAG Separation Unit: 1010 g.
- Size of the MACSiMAG Separation Unit: 188 × 68 × 65 WDH (mm).
- Weight of the Tube Rack: 190 g.

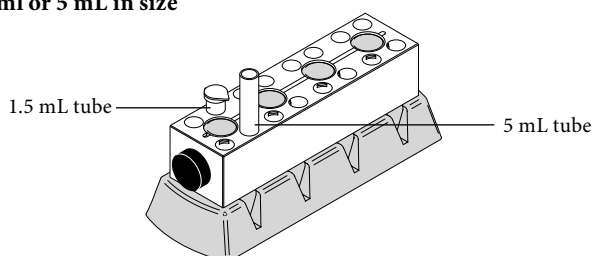
3. Instructions for use of the MACSiMAG™ Separator

The tubes from 0.5 mL up to 5 mL in size are placed in the acrylic tube rack mounted on the MACSiMAG™ Separator. The tube rack can accommodate up to eight tubes of 0.5 mL and 5 mL in size (A). Inverting the tube rack, it can accommodate up to eight tubes of 1.5 mL or 2 mL in size and up to eight tubes of 5 mL in size (B). Up to four conical 15 mL tubes and up to three 50 mL tubes can be inserted directly into the magnet (C).

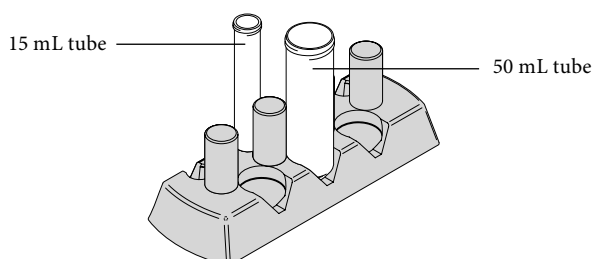
A) MACSiMAG Separator with tube rack positioned for tubes of 5 mL or 0.5 mL in size



B) MACSiMAG Separator with tube rack positioned for tubes of 1.5 mL or 5 mL in size



C) MACSiMAG Separator with 15 mL tube and 50 mL tube



3.1 Removal of MACSiBead™ Particles after activation or expansion of cells

▲ Removal of MACSiBead™ Particles used for cell activation or expansion may be required before restimulation with different agents or antigens, or before magnetic separation of cells with MACS® MicroBeads.

1. Harvest cells and transfer to a 5 mL, 15 mL, or 50 mL tube and wash once with buffer.
2. Resuspend cells in buffer at a density of up to 2×10^7 cells per 1 mL and vortex thoroughly.
3. Place the tube in the magnetic field of the MACSiMAG Separator.

▲ Note: Use tube rack to insert 5 mL tube into the magnetic field of the separator (for details, see figures above).

4. Allow the MACSiBead Particles to adhere to the wall of the tube:

5 mL tubes:	2 minutes
15 mL or 50 mL tubes:	4 minutes
5. Retaining the tube in the magnet, carefully remove the supernatant containing the MACSiBead-depleted cells and place in a new tube.
6. Remove the tube from the separator and add buffer to the same volume as before.
7. Vortex sample, replace tube in the MACSiMAG Separator and repeat steps 4–5.
8. Collected cells can now be further processed as required.

3.2 Depletion of cells magnetically labeled with MACSiBead™ Particles

1. Place the tube with cells labeled with MACSiBead™ Particles in the magnetic field of the MACSiMAG Separator. Use tube rack to insert tubes from 0.5 mL to 5 mL in size. For more details, see table 1 and figures above.

▲ Note: Carefully resuspend cells. To avoid unintended detachment of MACSiBead Particles from magnetically labeled cells, do not vortex.

2. Allow the MACSiBead-labeled cells to adhere to the wall of the tube:

0.5 mL, 1.5 mL, 2 mL, or 5 mL tubes:	2 minutes
15 mL or 50 mL tubes:	4 minutes
3. Retaining the tube in the MACSiMAG Separator, carefully pipette supernatant containing the non-labeled target cells into a new tube.
4. (Optional) To remove residual MACSiBead Particles, replace tube with non-labeled target cells in the MACSiMAG Separator and repeat steps 2 and 3.

All protocols and data sheets are available at www.miltenyibiotec.com.

Warranty

The products sold hereunder are warranted only to be free from defects in workmanship and material at the time of delivery to the customer. Miltenyi Biotec GmbH makes no warranty or representation, either expressed or implied, with respect to the fitness of a product for a particular purpose. There are no warranties, expressed or implied, which extend beyond the technical specifications of the products. Miltenyi Biotec GmbH's liability is limited to either replacement of the products or refund of the purchase price. Miltenyi Biotec GmbH is not liable for any property damage, personal injury or economic loss caused by the product.

MACS is a registered trademark and MACSiBead, MACSiMAG, and MACSmix are trademarks of Miltenyi Biotec GmbH.

Copyright © 2008 Miltenyi Biotec GmbH. All rights reserved.