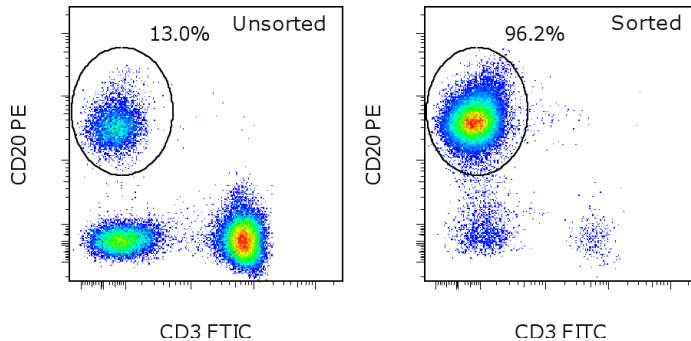


## MagniSort™ Human CD19 Positive Selection Kit

Catalog Number: 8802-6833

RUO: For Research Use Only. Not for use in diagnostic procedures.



Normal human peripheral blood mononuclear cells were unsorted (left) or sorted with the MagniSort® Human CD19 Positive Selection Kit (right) then stained with Anti-Human CD3 FITC (cat. 11-0038) and Anti-Human CD20 PE. Total viable cells were used for analysis.

### Product Information

**Contents:** MagniSort™ Human CD19 Positive Selection Kit

**Catalog Number:** 8802-6833

**Handling Conditions:** For sorting sterile cells, perform all steps in the hood.

**Formulation:** aqueous buffer, 0.09% sodium azide, may contain carrier protein/stabilizer

**Temperature Limitation:** Store at 2-8°C. Do not freeze.

**Batch Code:** Refer to vial

**Use By:** Refer to vial

**Contains sodium azide**

REF



LOT



### Description

The MagniSort® Human CD19 Positive Selection Kit is designed for the magnetic separation of CD19+ cells by positive selection. It has been optimized for the isolation of CD19+ cells from normal human peripheral blood mononuclear cells, utilizing a biotinylated Anti-Human CD19 antibody and streptavidin-coated magnetic beads. CD19+ cells are bound by antibody and then magnetic beads. When placed in a magnetic field, the undesired cells can be separated from CD19+ cells by decanting.

After positive selection, the purity of selected cells can be verified by staining with Anti-Human CD20, clone 2H7.

### Components

**MagniSort® Anti-Human CD19 Biotin** (cat. MS13-0199): 200 tests, 20 µL/test; store at 2-8°C.

**MagniSort® Positive Selection Beads A** (cat. PB-6003): 4 mL; store at 2-8°C.

### Applications Reported

The MagniSort® Human CD19 Positive Selection Kit has been reported for use in magnetic cell separation.

### Applications Tested

The MagniSort® followed by flow cytometric analysis of normal human peripheral blood mononuclear cells. A test is defined as the amount of antibody or beads to be used to stain  $1 \times 10^7$  cells in 100 µL.

This MagniSort® kit can sort  $2 \times 10^9$  total cells.

### Related Products

01-1234 123count™ eBeads Counting Beads

11-0038 eBioscience™ Anti-Human CD3 FITC (UCHT1)

12-0209 eBioscience™ Anti-Human CD20 PE (2H7)

MAG-4902 MagniSort™ Magnet

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# MagniSort™ Positive Selection Protocol

## Introduction

The following protocol is a general guideline for the MagniSort™ Positive Selection Kits. In positive selection, desired cells are labeled with biotinylated antibodies, followed by streptavidin-coated magnetic beads. When cells are placed in the MagniSort™ magnet, the desired cells will be held in place by the magnetic field while the undesired cells remain free in solution and can be removed by decanting. For each kit, the biotinylated antibody and the magnetic beads have been pre-titrated and diluted to test size.

## General Notes

### Caution

The MagniSort™ Magnet, 5 mL, generates a strong magnetic field. Keep away from pacemakers, credit cards, magnetic I.D. cards, watches, computer monitors and hard disks to prevent damage to these devices.

### Cell preparation

1. The MagniSort™ Positive Selection Kits have been optimized for use with single-cell suspensions of either mouse secondary lymphoid organs or normal human peripheral blood mononuclear cells, unless otherwise noted.
2. For mouse cells, removal of debris by passing through a 40 µm nylon filter is recommended for optimal performance of the kits.
3. For preparation of normal human peripheral blood mononuclear cells, please refer to Best Protocols: Protocol D: Isolation of PBMC from whole blood located under the Resources Tab online. It is recommended to thoroughly wash the buffy coat cells to remove platelets for optimal performance in the MagniSort™ kits.
4. Addition of EDTA to buffers will reduce cell clumping.

### Use in sterile cultures

1. MagniSort™ Biotin Antibody and Positive Selection Beads contain small amounts of sodium azide as preservative. This does not interfere with cellular functions when used in conjunction with sterile buffers that do not contain sodium azide. Performance in a given assay should be determined empirically.
2. For sorting sterile cells, perform all steps in a hood and use sterile polystyrene tubes with caps and sterile buffers.

### Protocol:

#### Materials Provided

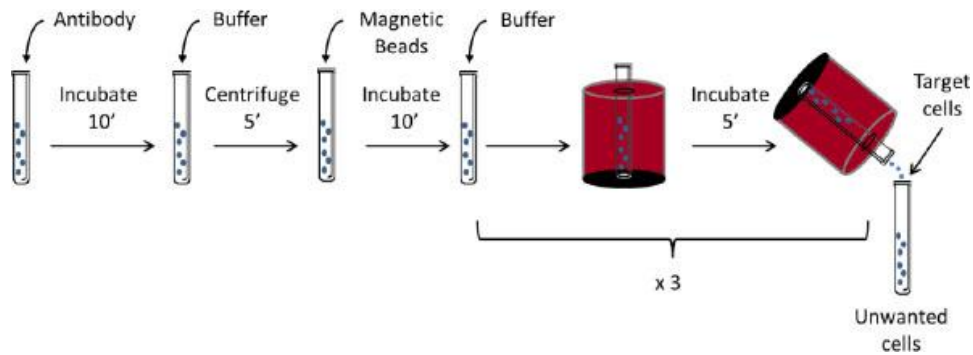
- MagniSort™ Positive Selection Antibody, 200 tests, 20 µL/test. Store at 2-8°C.
- MagniSort™ Positive Selection Beads, 4 mL. Store at 2-8°C.

#### Additional Materials Required

- Recommended buffer for cell separation: PBS or HBSS supplemented with 3% FBS and 10 mM EDTA. Store at 2-8°C.  
**Note:** We do not recommend the use of tissue culture media, such as RPMI-1640 or DMEM, for use during cell separation.
- MagniSort™ Magnet, 5 mL
- 12 x 75 mm round bottom polystyrene tubes (5 mL, BD Falcon, cat no. 352008, or equivalent)

#### Experiment Duration

- 40 minutes
- Work flow:



## Experimental Procedure

1. Prepare a single-cell suspension of lymphocytes at a concentration of  $1 \times 10^7$  cells/100  $\mu\text{L}$  ( $1 \times 10^8$ /mL) in desired cell separation buffer.  
**Note:** Cells must be in a single-cell suspension. Inspect sample and pulse vortex or pipet to remove clumps, if necessary, before proceeding.
2. Place desired number of cells, but no more than  $2 \times 10^8$  cells, in a 12 x 75 mm, 5 mL tube.
3. Add 20  $\mu\text{L}$  of MagniSort™ Positive Selection Antibody per 100  $\mu\text{L}$  of cells. Mix well by pulse vortexing 5 times. Incubate at room temperature for 10 minutes.
4. Wash cells by bringing the volume up to 4 mL with desired cell separation buffer and then centrifuge at  $300 \times g$  for 5 minutes.
5. Discard the supernatant and thoroughly resuspend the cells to their original volume with desired cell separation buffer.  
**Note:** Cells must be in a single-cell suspension. Inspect sample and pulse vortex or pipet to remove clumps, if necessary, before proceeding.
6. Add 20  $\mu\text{L}$  of MagniSort™ Positive Selection Beads per 100  $\mu\text{L}$  of cells. Mix well by pulse vortexing 5 times. Incubate at room temperature for 10 minutes.  
**Note:** The MagniSort™ Positive Selection Beads must be uniformly resuspended before adding to cells to ensure optimal performance. Thoroughly resuspend the beads by pipetting up and down 5 times with a P1000 pipette set to 1 mL or by vortexing.
7. Bring the volume up to 2.5 mL with desired cell separation buffer. Mix by pipetting up and down 3 times with a P1000 pipette set to 1 mL. Avoid vortexing.
8. Insert the tube into the magnet until the bottom of the tube is touching the bench top through the hole in the bottom of the magnet. Incubate at room temperature for 5 minutes.
9. Pick up the magnet and in a continuous motion pour the supernatant into a waste or secondary receptacle; these are the undesired (unbound) cells. Hold the inverted tube for 1 second and then return it to the upright position.  
**Note:** Do not blot or shake the inverted tube as this may reduce the recovery rate. The unbound cells can be collected and pooled, if needed.
10. Remove the tube from the magnet and repeat Steps 7-9 two more times for a total of 3 washes.
11. Remove the tube containing target cells from the magnet and add 1 mL of desired cell separation buffer. Wash the sides of the tube by pipetting the buffer down the sides. The positively selected cells are ready to use.

## Documentation and support

### Customer and technical support

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- Worldwide contact telephone numbers
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  - Product FAQs
  - Software, patches, and updates
- Order and web support
- Product documentation, including:
  - User guides, manuals, and protocols
  - Certificates of Analysis
  - Safety Data Sheets (SDSs; also known as MSDSs)

Note: For SDSs for reagents and chemicals from other manufacturers, contact the manufacturer.

### Limited product warranty

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23 January 2017

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