XpresSep™ Streptavidin Ferrofluid (SA-FF) Kit for Custom Indirect Separations

Catalog #: SAFF-109 Capacity: 1 x 10^9 cells

1. Product Description

Materials

Supplied	• 0.5 mL XpresSep™ Streptavidin Ferrofluid (SA-FF)
	• 10 mL Labeling/Separation buffer (10x concentrated); referred to as buffer throughout
Required	• ddH_2O
	• Biotinylated Monoclonal Antibody
	• XpresSep™ Multipole Magnetic Separator
Storage and Stability	Materials may be shipped at room temperature, but should be stored protected from light at 4–8°C upon receipt. Do not freeze. The expiration date is indicated on the vial label.

2. Product applications

- Positive selection or depletion of antibody-labeled cells from apheresis, PBMC, or cell culture suspensions.
- Starting with fresh PBMC, the enriched fraction typically contains between 96.5%-99.9% selected cells.

3. Protocol

The volumes stated here are for the separation of $1x10^8$ cells, scale up or down as needed.

I. Reagent Preparation

a. Buffer: dilute 10x with ddH_2O, store at 2-8˚C when not in use.

b. Streptavidin-Ferrofluid: prepare 1 mL per 10^8 cells, dilute 48 µL of SA-FF in 952 µL of buffer and mix.

II. Cell Preparation

a. Prepare a single-cell suspension. If working with whole blood, perform a mononuclear cell fraction isolation via the Ficoll-Paque method. Wash and resuspend the cell pellet in buffer.

b. Count cells and adjust the cell concentration to $2x10^8$ cells/mL with buffer.

III. Antibody/Ferrofluid Labeling

a. Stain cells with antibody(s) of interest.

b. Following removal of the excess antibody, resuspend the cell pellet in 1 mL of buffer per 10^8 cells. Mix by pipetting.

c. Add 1 mL of diluted SA-FF per 10^8 cells to the cell suspension and mix by inversion.

d. Incubate for 10 min at room temperature.

IV. Cell Separation

a. After incubation, transfer cell mixture (2mL per 10^8 cells) to a fresh tube.

b. Rinse the original tube with 3 mL of buffer and add this to the new tube.

c. Place the cell mixture in the appropriate XpresSep™ Multipole Magnetic Separator.

i. 1 mL – 4 mL → 12x75 tube: XpresSep™5

ii. >4 mL – 14 mL → 15 mL tube: XpresSep™15

iii. >14 mL – 45 mL → 50 mL tube: XpresSep™50

d. Incubate for 10 min.

e. Keep the tube in the separator and aspirate supernatant with a long Pasteur pipette, making sure not to touch the sides of the tube. Alternatively, pour to remove the supernatant.

f. Remove the tube from the separator.

g. Resuspend the positively selected cells in the buffer. ***Note:*** To reach higher purity in positive selection, you can resuspend the cells in fresh buffer and repeat steps c-f one or two additional times.

h. Resuspend cells in a buffer or media of your choice. The provided buffer can be used for fluorescent labeling and flow analysis.

Safety

The Ferrofluid contains 0.05% Proclin™ 300. This concentration presents no health hazards, toxicology problems, or disposal issues. Please consult the Safety Data Sheet for additional information.

Products are for **RESEARCH USE ONLY** and are not intended for human or animal therapeutic or diagnostic uses.

Warranty

The products are warrantied only against defects in workmanship and quality at the time of delivery. BioMagnetic Solutions LLC makes no warranty beyond the technical specifications of the product. BioMagnetic Solutions LLC liability is limited to either replacement of the products or refund of the purchase price.

BioMagnetic Solutions LLC

3058 Research Drive
State College, PA 16801-2782

Tech Support (Toll Free):
1-833-4BIOMAG
For additional information, visit:
www.biomagneticsolutions.com