

# Product Insert: Cell Selection Guidance for use with the FerroSelect<sup>™</sup> Ferrofluid & the FerroSelect<sup>™</sup> Quadrupole Magnets

For Research Use Only, Not for use in Diagnostic Procedures. For *ex vivo* use only.

This datasheet is meant as a guide for the end user. Due to the wide range of products that may be investgated, an estimate number of cells that could be captured using a third party antibody and BioMagnetic Solutions' Streptavidin FerroSelect<sup>™</sup> Ferrofluid is listed in Table 1. These numbers should only be taken as a starting point for the investigator, who needs to define both the concentration of biotinylated antibody and streptavidin ferrofluid needed for a successful cell separation. BioMagnetic Solutions does not recommend washing out excess biotinylated antibody before adding SA-FF, and therefore working in gross antibody excess may not necessarily give the end user an efficient cell separation.

Table 1: FerroSelect <sup>™</sup> Ferrofluid Kits			
FerroSelect™ Ferrofluid Kit	Ferrofluid Concentration	Catalog Number	
FerroSelect <sup>TM</sup> Ferrofluid – Capture of Approximately $1.2 \times 10^8$ cells	75 (µg/mL)	28-0027	
FerroSelect <sup>™</sup> Ferrofluid – Capture of Approximately 4.0 x 10 <sup>9</sup> cells	550 (µg/mL)	28-0029	
FerroSelect <sup>™</sup> Ferrofluid – Capture of Approximately 8.0 x 10 <sup>9</sup> cells	1100 (µg/mL)	28-0028	

## **Product Description:**

1.0 mL of streptavidin ferrofluid (SA-FF) in 0.3% rHSA.

Storage: Store at 2 – 8 °C. **Do Not Freeze**.

Expiry Date as per label/CoA (contact quality@biomagneticsolutions.com for updates).

Note: This product is manufactured in the USA entirely from material of non-animal origin. The manufacture, packaging, storage, and transportation of these materials do not involve the use of material of animal origin.

#### **Product Applications:**

Dependent upon the end user's requirements.

# **Expected Results**

BioMagnetic Solutions cannot define expected results for the the end user when they are using their own reagents,

#### Safety:

Wear gloves, a lab coat, and safety glasses at all times when handling reagents and blood products

Cells selected using the RUO reagent kit are **not** for human use.

Users have a 'duty of care' to dispose of all biological waste safely in accordance with biomedical waste guidelines.

#### Warranty:

BioMagnetic Solutions does not offer any warranty regarding the performance of the reagent kit due to the variability of the starting product selections and the biotinylated antibody(ies) that may be employed by the end user.

The kit should not be used after its expiry dating.



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### **Recommended Materials:**

A FerroSelect<sup>TM</sup> Ferrofluid Kit (see Table 1) depending on desired cell separation volume.

Biotinylated Monoclonal Antibody (not provided)

See Table 2 for cell separation guidance.

Separation Tubes:

- 5 mL tube to be used with the QP5 quadrupole (12 x 75 mm tube)
- 15 mL tube to be used with the QP15 quadrupole (17 x 120 mm tube)

FerroSelect<sup>™</sup> Quadrupole Magnets: (see the Quadrupole Instructions for Use for more information)

- FerroSelect<sup>™</sup> QP5 Quadrupole Magnet (Cat. No: 24-0001): Maximum volume of 4.0 mL
- FerroSelect<sup>™</sup> QP15 Quadrupole Magnet (Cat. No: 24-0002): Maximum volume of 12.0 mL

#### Procedure

The following procedure was developed by BioMagnetic Solutions' Research and Development Department as a guide to the end user. Approximately 8.0 x 10<sup>7</sup> PBMC were employed as the starting product for the experiment described below.

Table 2: Cell Selection Guidance when using the FerroSelect QP5 & QP15.			
Step	QP5	QP15	
1. Cell Preparation	Wash cellular product and resuspend in an applicable buffer to 2.0 x 10 <sup>8</sup> cells/mL		
1.1 Add Celular Product	Add 0.4 mL of the cellular product to a 5 mL tube	Add 1.2 mL of the cellular product to a 15 mL tube	
2.0 Antibody Labeling	Add biotinylated mAb and buffer at desired conc. so that the final volume is 0.80 mL. For positive selections, BioMagnetic Solutions uses a final concentration of biotinylated antibody of 3 ug/mL.	Add biotinylated mAb and buffer at desired conc. so that the final volume is 2.40 mL. For positive selections, BioMagnetic Solutions uses a final concentration of biotinylated antibody of 3 ug/mL.	
	Gently mix cells and incubate for 5 minutes at room temperature.		
3.0 Ferrofluid Labeling	Gently mix the vial of streptavidin ferrofluid by inversion. It is recommended to add ferrofluid to 12 µg/mL with cells and optimize as necessary.		
	Add SA-FF and buffer at desired conc. So that the final volume is 1.6 mL. For positive selections, BioMagnetic Solutions uses a final SA-FF concentration of 12 ug/mL.	Add SA-FF and buffer at desired conc. so that the final volume is 4.8 mL. For positive selections, BioMagnetic Solutions uses a final SA-FF concentration of 12 ug/mL.	
	Gently mix cells and incubate for 5 minutes at room temperature.		
4.0 Cell Separation	Add 2.4 mL of buffer to the tube and gently mix. Insert tube into the QP5.	Add 7.2 mL of buffer to the tube and gently mix. Insert tube into the QP15.	
	Separate for at least 10 minutes to allow cells labeled with SA-FF to be drawn to the walls of the tube. (BioMagnetic Solutions normally separates cells at a final concentration of $2.0 \times 10^7$ cells/mL.		
	Carefully aspirate the supernatant with a Pasteur pipette from the tube without touching the tube's sides.		
Results	After draining the supernatant from the tube and removing it from the magnet, resuspend the cells in buffer for further investigations.		