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MojoSort™ Human NK Cell Isolation Kit Protocol [↗](#)Sam Li¹¹BioLegend1 Works for me [dx.doi.org/10.17504/protocols.io.7ythpwn](https://doi.org/10.17504/protocols.io.7ythpwn)

BioLegend

Sam Li
BioLegend

ABSTRACT

Product description and procedure summary:

Target cells are depleted by incubating your sample with the biotin antibody cocktail followed by incubation with magnetic Streptavidin Nanobeads (Cat. No. 480015/480016). The magnetically labeled fraction is retained by the use of a magnetic separator. The untouched cells are collected. These are the cells of interest; do not discard the liquid. Some of the downstream applications include functional assays, gene expression, phenotypic characterization, etc.

Note: This procedure is optimized for the isolation of 10^7 to 2×10^8 cells per tube. If working with fewer than 10^7 cells, keep volumes as indicated for 10^7 cells. For best results, optimize the conditions to your specific cell number and tissue. Prepare fresh MojoSort™ Buffer solution by diluting the 5X concentrate with sterile distilled water. *Scale up volumes if using 14mL tubes and Magnet, and place the tube in the magnet for 10 minutes.*

EXTERNAL LINK

<https://www.biolegend.com/protocols/mojosort-human-nk-cell-isolation-kit-protocol/4605/>

GUIDELINES

MojoSort™ magnetic particles can be used with other commercially available magnetic separators, both free standing magnets and column-based systems. Because MojoSort™ protocols are optimized for the MojoSort™ separator, the protocols may need to be adjusted for other systems. Please contact BioLegend Technical Service (tech@biolegend.com) for more information and guidance. We do not recommend using MojoSort™ particles for BD's IMag™ or Life Technologies' DynaMag™.

Application notes: To use this product in magnetic separation columns, a titration of the Nanobeads should be performed. Optimal concentration for magnetic separation columns is lot-specific. Please contact BioLegend Technical Service (tech@biolegend.com) for further assistance on how to use MojoSort™ Nanobeads in magnetic separation columns.

MATERIALS

NAME ▾	CATALOG # ▾	VENDOR ▾
MojoSort™ Magnet	480019	BioLegend
MojoSort™ Buffer	480017	BioLegend
MojoSort™ Human NK Cell Isolation Kit	480053, 480054	BioLegend

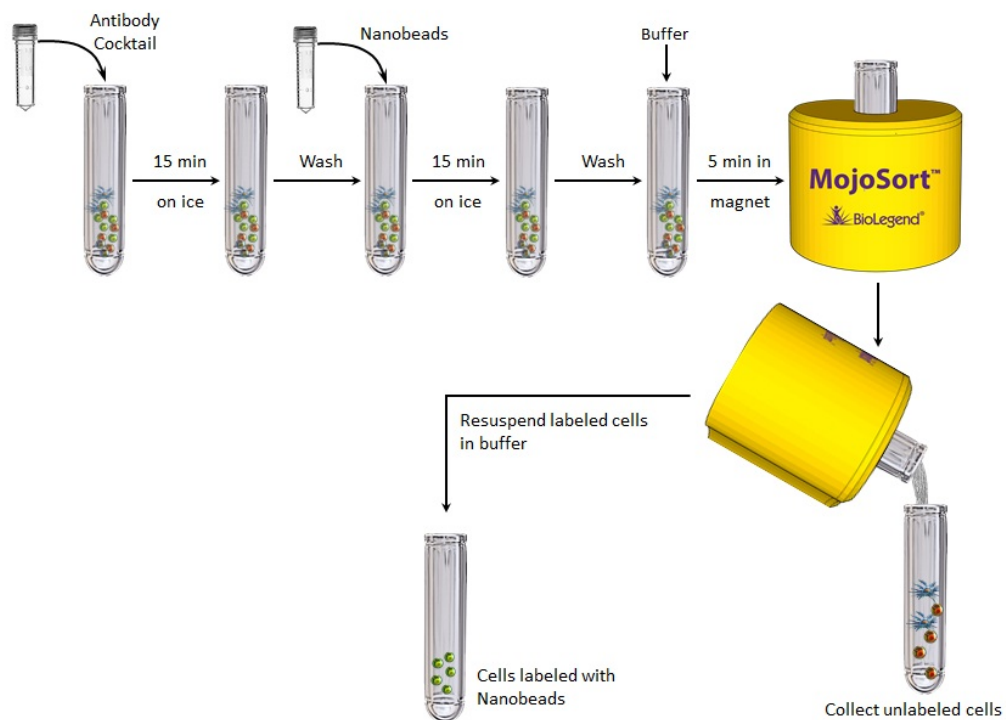
MATERIALS TEXT

- Adjustable pipettes
- 70µm filters (one per sample)
- 5mL (12 x 75mm) or 14mL (17 x 100mm) polypropylene tubes
- Reagents for sample preparation
- Reagents and instruments (Flow cytometer) to determine yield and purity

- 1 Prepare cells from your tissue of interest or blood without lysing erythrocytes. Kits for human samples have been optimized for PBMCs, please prepare the cells using a suitable method.
- 2 In the final wash of your sample preparation, resuspend the cells in MojoSort™ Buffer by adding up to 4 mL in a 5 mL (12 x 75 mm) polypropylene tube.
Note: Keep MojoSort™ Buffer on ice throughout the procedure.
- 3 Filter the cells with a 70µm cell strainer, centrifuge at 300xg for 5 minutes, and resuspend in an appropriate volume of MojoSort™ Buffer. Count and adjust the cell concentration to 1×10^8 cells/mL.
- 4 Aliquot 100µL of cell suspension (10^7 cells) into a new tube. **Add 10µL of the Biotin-Antibody Cocktail.** Mix well and **incubate on ice for 15 minutes.** Scale up the volume accordingly if separating more cells. For example, add 100 µL of Antibody for separating 1×10^8 cells in 1 ml of MojoSort™ Buffer. When working with less than 10^7 cells, use indicated volumes for 10^7 cells.
Optional: Take an aliquot before adding the cocktail to monitor purity and yield.
- 5 Wash the cells by adding MojoSort™ Buffer up to 4mL. Centrifuge the cells at 300xg for 5 minutes.
- 6 Discard supernatant and resuspend in 100µL of MojoSort™ Buffer.
- 7 Resuspend the beads by vortexing, maximum speed, 5 touches. **Add 10µL of Streptavidin Nanobeads.** Mix well and **incubate on ice for 15 minutes.** Scale up the volume accordingly if separating more cells. For example, add 100 µL of Nanobeads for separating 1×10^8 cells in 1 ml of MojoSort™ Buffer. When working with less than 10^7 cells, use indicated volumes for 10^7 cells.
- 8 Wash the cells by adding MojoSort™ Buffer up to 4mL. Centrifuge the cells at 300xg for 5 minutes.
- 9 Discard the supernatant.
- 10 Add 2.5mL of MojoSort™ Buffer.
Note: If you observe aggregates, filter the suspension. To maximize yield, you can disrupt the aggregates by pipetting the solution up and down.
- 11 Place the tube in the magnet for 5 minutes.
Optional: Take a small aliquot before placing the tube in the magnet to monitor purity and yield. Keep unused cells to be used as control or other applications if needed.

- 12 Pour out the unlabeled fraction. If these are your cells of interest, **DO NOT DISCARD**. Resuspend the labeled cells in MojoSort™ Buffer.

Note: This kit requires only one magnetic separation. **DO NOT REPEAT SEPARATIONS**. *Optional: Take a small aliquot to monitor purity and yield.*



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