SOLIDEX®-ISOEx Untouched Human NK Cell Isolation Kit (Column-Based)

Product Instruction Manual

Cat. No.	GM-Tg-hg-NK-Cell-iso-kit
Product Name	SOLIDEX®-ISOEx Untouched Human NK Cell Isolation Kit (Column-Based)
Storage Temperature	2-8 °C (Do not freeze)

Technical Parameters

Classification	Description
Cell type	NK Cell
Isolation method	Negative selection (Untouched)
Labeling type	Indirect
Magnetic nanobeads type	Non-releasable
Format	Column-based

Product Introduction

Natural killer (NK) cells are critical innate immune cells in the human body, accounting for 8 – 20% of peripheral blood lymphocytes. They play important roles in anti-infection, anti-tumor immunity, and immune regulation. Our SOLIDEX® NK Cell Isolation Solution supports positive selection, negative selection, and depletion strategies.

The SOLIDEX®-ISOEx Untouched Human NK Cell Isolation Kit (Column-Based) uses anti-biotin magnetic nanobeads to label non-NK cells. By removing these magnetically labeled non-NK cells, highly pure NK cells are obtained. The isolated NK cells are free of antibody and bead binding, preserving their native function and maintaining the integrity of surface markers, making them ideal for a variety of downstream applications.

Product Components and Specifications

Component	Catalog No.	10 Test (1×10^8 cells)	50 Tests (5×10^8cells)	100 Tests (1×10^9 cells)
SOLIDEX®-ISOEx Untouched Human NK Cell Isolation Cocktail	GM-NK-Cell-iso-Cocktail-	50 µL	250 µL	0.5 mL
SOLIDEX®-ISOEx anti-Biotin Nanobeads (Column-Based)	GMP-SMT-219-Ab01-nanoIMB	300 µL	1.5 mL	3.0 mL

Note: This product is for research and development use only.
Shelf Life: Store at 2-8°C, protected from light, and do not freeze. Under these conditions, the product is valid for 6 months.

Reagents and Equipment Required

A. Cell isolation Column

For positive selection or depletion, recommended for use with GeneMedi **SOLIDEX®-ISOEx cell isolation columns**: M Column for standard throughput, Cat. No.: **GMP-ISOEx-Column-M**; L Column for high throughput, Cat. No.: **GMP-ISOEx-Column-L**. Comparable columns from other mainstream brands are also compatible.

B. Magnetic Separator

C. Cell isolation buffer

Phosphate-buffered saline (PBS), pH 7.2, containing 0.5% bovine serum albumin (BSA) and 2 mM EDTA. (user-supplied).

Note:

(1) BSA can be replaced by other proteins such as human serum albumin (HSA), human serum, or fetal bovine serum (FBS).
(2) Degas the Cell isolation buffer before use, as air bubbles may block the Column.
(3) Keep the Cell isolation buffer cold (2-8°C).

Protocol

A. Cell Labeling

a. Count the human peripheral blood mononuclear cells (PBMCs) and aliquot the required number of cells for subsequent experiments.
b. Centrifuge the cell suspension at 300 × g for 5 minutes; for large-volume samples (e.g., when using 15 mL/50 mL centrifuge tubes), it is recommended to centrifuge at 300×g for 10 minutes. After centrifugation, aspirate the supernatant and resuspend the cells at a ratio of 50 µL of isolation buffer per 1×10^7 cells.
c. Add **5 µL** of SOLIDEX®-ISOEx Untouched Human NK Cell Isolation Cocktail per 1×10^7 cells. Mix gently using a pipette and incubate at room temperature for 5 minutes.
d. Following incubation, add **30 µL** of SOLIDEX®-ISOEx anti-Biotin Nanobeads per 1×10^7 cells. Mix well and incubate at 2-8°C for 10 minutes.
e. Add 3 mL of cell isolation buffer to resuspend the cells, then proceed to the subsequent isolation procedures.
Note:
a. The nanobeads must be thoroughly mixed prior to use by pipetting up and down.
b. The cell isolation buffer must be pre-cooled to 2-8°C or on ice.

B. Cell Isolation

a. Place the LS isolation column on the magnetic separator and rinse with 3 mL of cell isolation buffer.
b. Once the cell isolation buffer has completely drained, apply the 3 mL cell suspension to the column. Place a clean 15 mL centrifuge tube underneath to collect the flow-through.
c. After the liquid has drained from the column, wash the column once by adding 3 mL of cell isolation buffer. Collect the flow-through in the same centrifuge tube; this fraction contains the isolated NK cells.
d. If the column-bound cells need to be retained, remove the isolation column from the magnetic separator and place it into a clean 15 mL centrifuge tube. Add 5 mL of cell isolation buffer and use the plunger to directly flush the liquid out of the column (Optional).

Notes

A. Avoid freezing during use and storage of the Nanobeads.
B. It is recommended to use low-binding pipette tips and centrifuge tubes to prevent loss of Nanobeads due to adsorption.
C. Before aspirating the Nanobeads, mix them gently. Avoid bubble formation during mixing.
D. This product is used for research use only.

Validation Data from GeneMedi

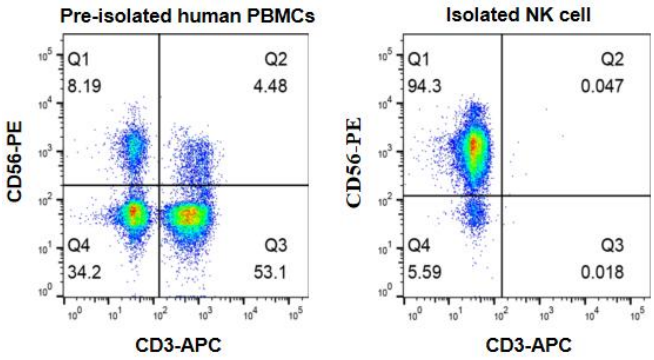

Figure 1. Isolation of high-purity NK cells achieved by the SOLIDEX®-ISOEx Untouched Human NK Cell Isolation Kit (Column-based). To evaluate the purity of the isolated NK cells, CD56+ NK cells were isolated from human PBMCs. Cells pre- and post-isolation were labeled with CD3-APC and CD56-PE antibodies for flow cytometric analysis. The purity of CD56+ NK cells pre-isolation and post-isolation was 8.19% and 94.3%, respectively.