ReadiPrep™ Exosome Isolation Kit

Catalog number: 60204, 60205
Unit size: 50 Preps, 200 Preps

Component	Storage	Amount (Cat No. 60204)	Amount (Cat No. 60205)
Exosome Isolation Buffer	Refrigerated (2-8 °C), Minimize light exposure	1 Bottle (50 mL)	4 Bottle x 50mL (200 mL)

OVERVIEW

Exosomes are nanoscale (30-150 nm), membrane-bound vesicles secreted by cells into the extracellular space, functioning as pivotal mediators in intercellular communication. They facilitate the transfer of proteins, lipids, and nucleic acids, including RNA species, between cells. This vesicular transport mechanism is implicated in various physiological and pathological processes, including immune modulation, disease progression, and genetic information exchange, making exosomes a focal point in both therapeutic and diagnostic research. The isolation of exosomes typically involves complex and time-consuming processes, such as ultracentrifugation, which can be challenging to execute. The ReadiPrep™ Exosome Isolation Kit offers a streamlined and effective approach to isolating intact exosomes from diverse biological samples, including cell culture media and serum. The principle behind this kit is based on the selective precipitation of exosomes by inducing the removal of water molecules from the solution. Following a brief, low-speed centrifugation step, the exosomes are precipitated and can subsequently be isolated through standard centrifugation. The isolated exosomal pellet is then resuspended in PBS or an equivalent buffer, rendering the exosomes suitable for further downstream analyses or purification via affinity-based methods.

SAMPLE EXPERIMENTAL PROTOCOL

Important Note

To ensure isolated exosomes originate from the cells, culture cells with exosome-depleted fetal bovine serum (FBS) or no FBS. Normal FBS contains a significantly higher amount of exosomes and may give false positive results. It is important to note that this kit has been tested only for exosome isolation from cell culture media.

Preparation of Cell Samples

1. Grow cells for a desired time period.
2. Harvest cell culture medium.
3. Centrifuge the cell culture medium at 2000 x g for 30 minutes to remove cell debris and remaining floating cells.
4. Transfer the supernatant into a new tube without disturbing the pellet.

Isolation of Exosomes

1. Transfer the necessary volume of supernatant (prepared as described in "Preparation of cell samples") into a fresh tube, and then add an equal volume of Exosome Isolation Buffer. For instance, if you are isolating from 10 mL of cell culture medium, you should add 10 mL of Exosome Isolation Buffer.
2. Mix it well and incubate samples at 2 ℃ to 8 ℃ overnight.
3. After incubation, centrifuge the samples at 10,000 x g for 1 hour at 2 ℃ to 8 ℃.
4. Remove the supernatant and discard it. Exosomes should be in the pellet at the bottom of the tube.

   Note: The pellet may not be visible in most cases.
5. Resuspend the pellet in 1X PBS with the desired volume. For example, if the starting cell culture media volume is 10 mL, then the resuspension volume should be 100 µL–1 mL.
6. Store the isolated exosomes at 2 ℃ to 8 ℃ for up to 1 week or at ≤ 20 °C for long-term storage.

EXAMPLE DATA ANALYSIS AND FIGURES

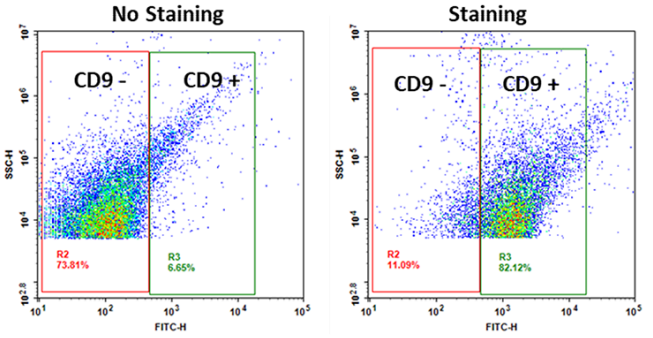

Figure 1. Exosomes from 100,000 HeLa cells (cultured for 16 hours in 10 mL serum-free medium) were isolated using ReadiPrep™ Exosome Isolation Kit (Cat# 60204) and detected using the Cell Navigator™ Flow Cytometric Exosome Staining Kit (Cat# 22426).

DISCLAIMER

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