Serum Plasma Exosome Extraction Kit

Cat: EX0010
Size: 30T
Storage: RT, Valid for 2 year. Mix well before use.

Kit Components:

Kit Components	Size
Blood PureExo Solution*(BPS)	30mL
Exosome Purification Filter*	30

Note: *RNase/DNase Free, Sterile.

Introduction:

Exosomes are small vesicles (30-150nm) secreted by cells containing RNA and protein, which exist in large quantities in body fluids such as blood, saliva, urine and milk. Exosomes are thought to function as intercellular messengers, transporting their effectors or signaling molecules between specific cells; However, their structure, effector composition, and the biological pathways involved are still unclear.

In the study of the biological function of exosomes, complete exosome particles need to be isolated, and the traditional ultracentrifugation method is complicated, demanding in hardware and difficult to operate. The components of this kit are optimized and suitable for the extraction of exosomes from serum and plasma. Combined with purification filter device, high purity exosome particles can be obtained quickly and efficiently, which can be used for electron microscope analysis, NTA particle size analysis, nucleic acid analysis, protein analysis, cytology experiments and animal experiments.

Self-prepared Material:

High-speed centrifuge (can reach 10000g centrifugal force); Vortex oscillator; 1.5mL centrifuge tube; 1×PBS buffer (sterile).

Protocols:

1. Sample pretreatment

(1) Sampling: For frozen samples, thaw the samples in a water bath at 25℃ after taking them out of the refrigerator. Place the completely melted samples on ice; If it is a fresh sample, collect the sample and put it on ice.

(2) Initial sample dosage: The amount of serum and plasma used in a single extraction is at least 0.2mL.

(3) Centrifuge to remove cell fragments: The sample was transferred to a centrifuge tube and centrifuged at 3000g at 4℃ for 10min to remove cell fragments in the sample.

(4) Supernatant transfer: The centrifuge supernatant to remove cell debris is transferred to a new centrifuge tube.

(5) Centrifuge to remove impurities: The transferred supernatant is centrifuged at 10000g at 4℃ for 10min to remove impurities in the sample and transfer the centrifuged supernatant to a new

centrifuge tube. (Note: If there is much precipitation, the supernatant can be centrifuged 10000g/10min for several times until there is no obvious precipitation, and the centrifugal supernatant is taken each time).

2. Extraction of exosomes

(1) Pretreatment of supernatant: Precooled 1×PBS was first added to the centrifugal supernatant to remove impurities for dilution, and then Blood PureExo Solution (BPS) was added; The specific dosage is as follows (Note: For other dosage specifications, please convert according to the reagent dosage in the table).

Sample name	Sample dose	PBS dose	BPS sample dose
Serum	1.0mL	3.0mL	1.0mL
Plasma	1.0mL	3.0mL	1.0mL

(2) Solution mixing: After adding BPS reagent, the centrifuge tube was tightly capped, mixed by vortex oscillator for 1min, and then placed at 4℃ for 2h.

(3) Precipitation of exosomes: the centrifuge tube containing the mixed liquid was centrifuged at 10000g at 4℃ for 60min, and the supernatant was discarded. The precipitation was rich in exosome particles; (Note: Absorb the supernatant as much as possible).

(4) Exogenic weight suspension: Take 1×PBS to evenly blow the centrifugal precipitate (specific dosage added in the table below), and transfer the suspension to a new 1.5mL centrifuge tube after it is dissolved. (Note: Other dosages should be converted according to the reagent dosage in the table).

Serum plasma volume	PBS dose
0.2mL	0.1mL

(5) Exosome particles were harvested: a 1.5mL centrifuge tube containing the heavy suspension was centrifuged at 4℃ at 12000g for 2min, and the supernatant, which was rich in exosome particles, was retained. (Note: If there is a lot of precipitation, the supernatant can be centrifuged at 12000g/2min for several times until there is no obvious precipitation, and the centrifugal supernatant can be taken each time).

3. Purification of exosomes

(1) Purification of exosomes: The harvested crude Exosome granules were transferred to the upper chamber of Exosome Purification Filter (EPF column) at 4℃ Centrifuge at 3000g for 10min and collect the liquid at the bottom of EPF column after centrifugation. The liquid is the purified exosome particles; (Note: EPF column cannot be reused).

(2) Preservation of exosomes: The purified exosomes were stored in 50-100μL in a low-temperature refrigerator at -80℃ for further experiments.

Note:

This product is intended for life science research only and is not intended for medical diagnosis or other purposes