

# RayBio® Total Exosome Isolation Reagent for Serum

Catalog #: EXO-IRS

Last revised: April 19, 2019

## INTRODUCTION

Exosomes are small extracellular vesicles with sizes of 30-100 nm that are produced and secreted by a variety of different cells in the body. Exosomes contain a wide range of functional proteins, mRNAs and microRNAs, and are found in most of body fluids, including blood, urine, saliva, bile, and breast milk. The Total Exosome Isolation Reagent enriches exosomes from serum rapidly and inexpensively using low-speed centrifugation.

## STORAGE

Store at room temperature for up to 2 years from ship date.

## PRODUCT CONTENTS

Component	Volume
Total Exosome Isolation Reagent	10 mL

## PROTOCOL FOR ISOLATING EXOSOMES

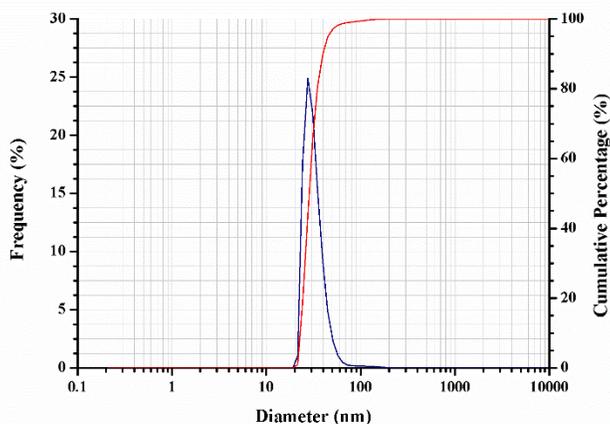
1. Collect serum and centrifuge at  $3000 \times g$  for 15 minutes to remove cells and cell debris.
2. Transfer supernatant to a sterile tube and add the appropriate volume of the Total Exosome Isolation Reagent. Examples are shown in the Table below; **maintain the same proportions if using a different serum volume.** Mix the serum/reagent mixture well by vortexing.

Serum volume	Reagent volume
250 $\mu$ L	63 $\mu$ L
500 $\mu$ L	130 $\mu$ L

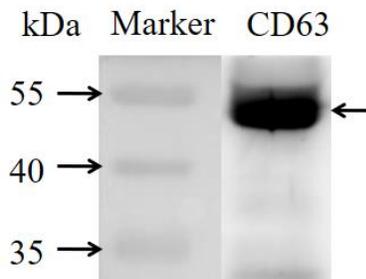
3. Incubate the sample at 2°C to 8°C for 30 minutes. The tubes should not be rotated or mixed during the incubation period and should remain upright.
4. After incubation, centrifuge the sample at  $1500 \times g$  for 30 minutes. Centrifugation may be performed at 4°C. After centrifugation, the exosomes may appear as a beige or white pellet at the bottom of the vessel.
5. Aspirate and discard the supernatant. Spin down residual solution by centrifugation at  $1500 \times g$  for 5 minutes. Remove all traces of fluid by aspiration, taking great care not to disturb the precipitated exosomes in pellet.

6. Resuspend exosome pellet in 100-500  $\mu$ L using sterile 1X PBS, or specific buffer according to your downstream application. A larger volume of buffer may be used according to the requirements of your experiment. We recommend using the precipitated exosomes immediately rather than freezing them for future use.

## EXAMPLE DATA



**Figure 1.** 63  $\mu$ L of **Total Exosome Isolation Reagent** were combined with 250  $\mu$ L of serum. Exosomes were diluted 1 mL PBS. The particle size distribution of serum exosomes was measured by Nano Particle Analyzer HORIBA SZ-100S.



**Figure 2.** To confirm the efficacy of the isolation of the exosomes, 30  $\mu$ g of exosomal proteins were used for the detection of CD63 (an exosomal protein marker) by Western blotting.