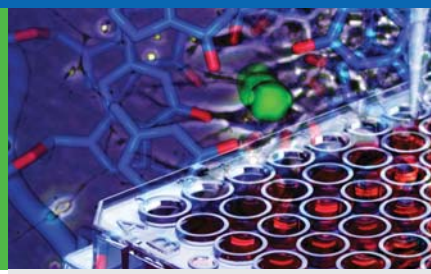
System Biosciences
Accelerating discoveries through innovations

Exosome Research

Exosome Antibodies, Arrays and ELISAs

Track, Verify and Quantitate Exosomes with Validated Antibody Systems



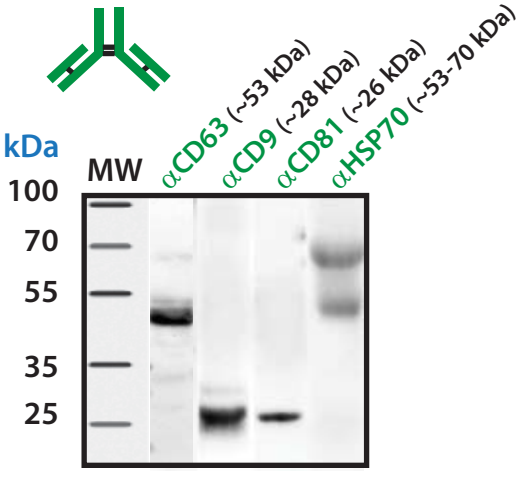
Exosomes are small membrane vesicles secreted by most cell types in vivo and in vitro. Exosomes are found in cell culture media, blood, urine, amniotic fluid, malignant ascite fluids and contain distinct subsets of microRNAs and proteins depending upon the tissue from which they are secreted. SBI's ExoELISA kits are designed for fast and quantitative analysis of well-characterized exosomal protein markers: CD63, CD9, CD81 or Hsp70. The exosome antibody kits allow for the confirmation of exosome recoveries and the ExoELISA kit enables the specific quantitation of CD63, CD9 or CD81 positive exosome microvesicles. The exosome antibody and ExoELISA kits are fully compatible with exosomes isolated by SBI's ExoQuick or ExoQuick-TC as well as ultracentrifugation methods.

Highlights

- Exosome antibodies for Westerns
- Validated CD63, CD9, CD81 and Hsp70
- Exosome ELISAs for quantitation
- Measure exact number of exosome particles isolated from your samples

Exosome antibodies for Western blots

For Western blotting analysis, we recommend resuspending the exosome pellet in 1XRIPA buffer with the appropriate protease inhibitor cocktail. SBI offers individual antibodies for CD63, CD9, CD81 and Hsp70 as well as a Western blot sampler kit (Catalog# EXOAB-KIT-1) which includes four exosomal marker antibodies: CD63, CD9, CD81, HSP70 (rabbit anti-human) and also includes a goat anti-Rabbit IgG HRP conjugated secondary antibody specifically tested for use in exosomal protein analysis. The primary antibodies are used at a 1:1,000 dilution and the HRP secondary antibody at 1:20,000 dilution.

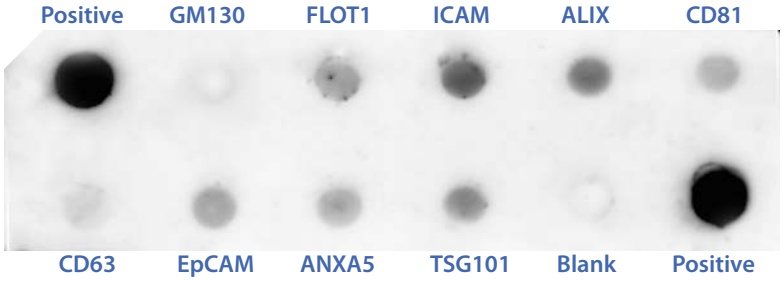


ExoQuick Exosome Serum Western Analysis

Exosome antibody arrays to check recoveries

The Exo-Check antibody array has 12 pre-printed spots and features 8 antibodies for known exosome markers (CD63, CD81, ALIX, FLOT1, ICAM1, EpCam, ANXA5 and TSG101) and a GM130 cis-Golgi marker to monitor any cellular contamination in your exosome isolations. Your exosome preparations are lysed and then incubated with the array for the pre-printed antibodies to capture their respective exosome proteins.

	1	2	3	4	5	6
A	Positive	GM130	FLOT-1	ICAM	ALIX	CD81
B	CD63	EpCAM	ANXA5	TSG101	Blank	Positive



The positive control signals should provide a bright signal and this will indicate that all of the detection reagents are working properly. The various exosome antibody spots will provide signals of varying degree, depending upon the source of the isolated exosomes. The Blank spot should not have any signal and this serves as a background control. The GM130 control is to evaluate cellular contamination (if any) in your exosome preparations. The data above are from 300 ug of exosome proteins isolated using ExoQuick-TC from human HT1080 lung sarcoma cell line media.

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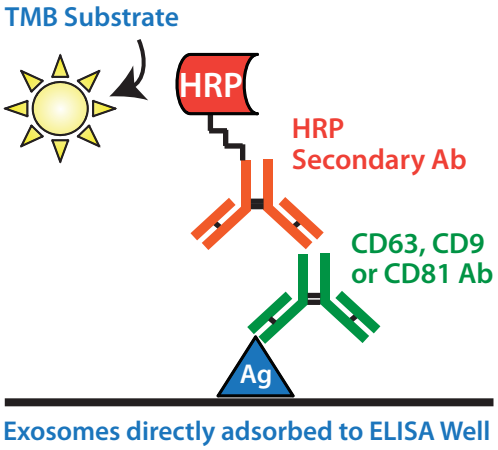
ExoELISA™ Exosome Quantitation Kits

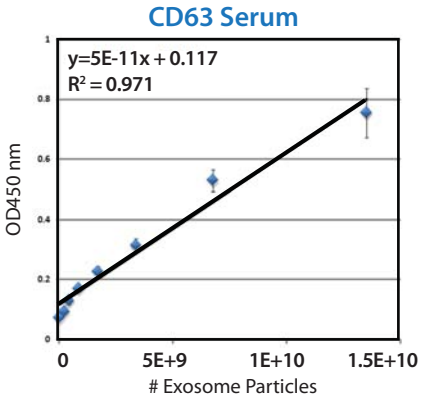
Highly sensitive and quantitative ELISAs

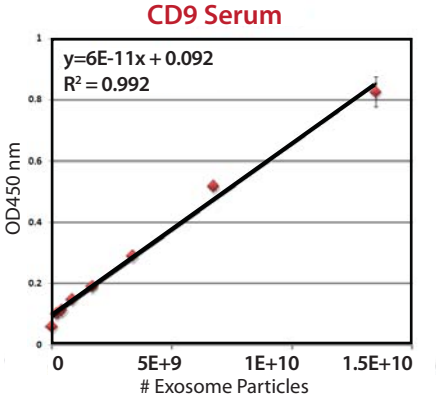
The ExoELISA kit is designed as a direct Enzyme-Linked ImmunoSorbent Assay (ELISA). The exosome particles and their proteins are directly immobilized onto the wells of the microtiter plate. After binding, wells are coated with a block agent to prevent non-specific binding of the detection antibody. The detection (primary) antibody is added to the wells for binding to specific antigen (e.g. CD63) protein on the exosomes. ExoELISA kits come with exosome standards to make calibration curves.

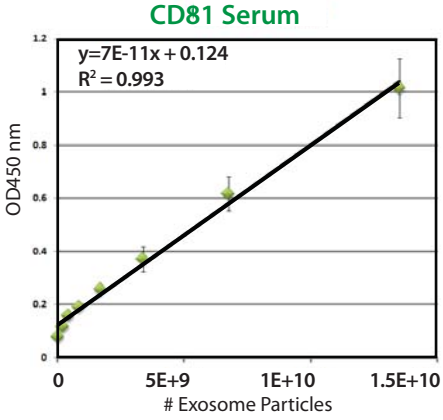
Three primary antibody detection formats:

- CD63 ExoELISA, catalog# EXOEL-CD63A-1
- CD9 ExoELISA, catalog# EXOEL-CD9A-1
- CD81 ExoELISA, catalog# EXOEL-CD81A-1

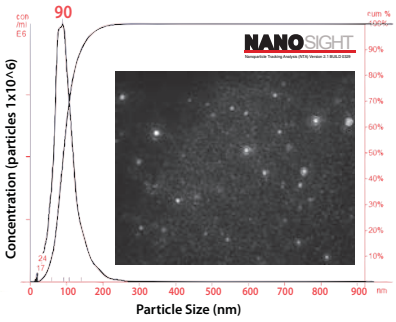








ExoELISA Standards Calibrated by NanoSight



ExoELISA™ Plate

A Horseradish Peroxidase enzyme (HRP) linked secondary antibody (goat anti-rabbit) is used for signal amplification and to increase assay sensitivity. A colorimetric substrate (Extra-sensitive TMB) is used for the assay read-out. The accumulation of the colored product is proportional to the specific antigen present in each well. The results are quantitated by a microtiter plate reader at 450 nm absorbance and calibrated by the exosome standards provided in the kit. The exosome standards are provided in number of exosome particles as determined by NanoSight dynamic light scattering measurements. The ExoELISA kits are compatible with exosomes isolated by ExoQuick, ExoQuick-TC or by ultracentrifugation techniques.

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