

ELISA immunoplates for exosome capture



To isolate overall exosomes or specific exosome sub-populations from a wide range of biofluids or cell media

HBM provides different immunoplates for exosome capture and/or enrichment

HBM Immunoplates are 96 multiwell plates covalently pre-coated with specific exosome-binding antibodies enabling exosome capture and isolation from different media (cell culture supernatants, human plasma, serum, urine and saliva). The immunocapture approach maximizes the quantity of captured exosomes, resulting in high exosome yields, with great purity. HBM has developed different type of plates for the enrichment of specific exosome subpopulations (tumor, neural, glial, monocytes and platelets) for dedicated applications. Plates are blocked and stabilized for long term storage and ziplocked in individual aluminium bags.

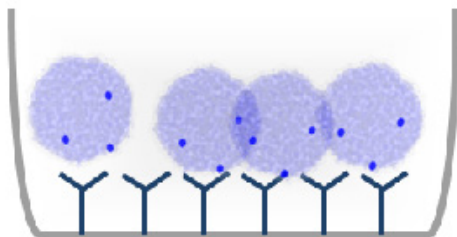
Cat. Code	Description	Coating antibody
Immunoplates for Overall Exosome capture		
HBM-POF-CC/##	Exosome capture from human plasma and urine	Rabbit
HBM-POS-CC/##	Exosome capture from human serum	Mouse
HBM-POSL-CC/##	Exosome capture from human saliva	Rabbit
HBM-POC-CC/##	Exosome capture from cell culture media	Mouse
Immunoplates for enrichment of specific exosome subpopulations		
HBM-PTF-CC/##	Enrichment of tumor-derived exosomes	Rabbit
HBM-PNF-CC/##	Enrichment in neural-derived exosomes	Rabbit
HBM-PGF-CC/##	Enrichment in glial-derived exosomes	Mouse
HBM-PPP-CC/##	Enrichment in platelets and monocyte-derived exosomes	Mouse
All Immunoplates are available in three different formats: transparent for colorimetric, white for luminometric and black for fluorometric reading.		
Immunoplates are sold in sealed aluminium ziplock bags of 1 or 5 plates.		
HBM also provides custom-made plates. We can develop special immunoplates to address specific needs of our Academic or Industrial customers.		

Applications

- Multiple profiling of exosomal markers from a single sample or screening of a large number of samples.
- Exosome capture and quantification from human biofluids (plasma, serum, urine, saliva).
- Exosome capture and quantification from human or mouse cell media.
- Titration of purified exosomes.
- Capture and enrichment of specific exosome subpopulations.

Advantages

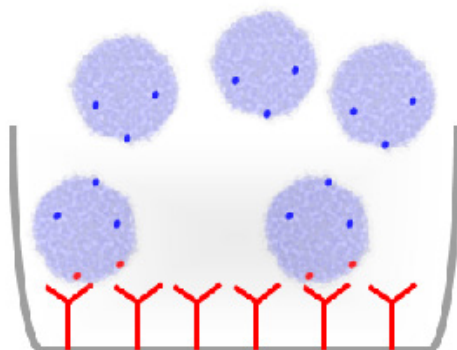
- Ready to use.
- Long term storage (up to 2 years).
- No exosome pre-purification required (by ultracentrifugation or other methods).
- Small amount of sample required (100 µl per well).
- Suitable for nucleic acid extraction from exosome captured on the plate.
- Flexibility in designing a multiplexing assay.
- Open platform for customized coating solutions



Capture of overall Exosomes

Plates are coated with antibodies against exosome surface antigens, present on overall exosome population.

- From human biofluids (plasma, serum, urine, saliva)
- From cell media of human or mouse cell lines

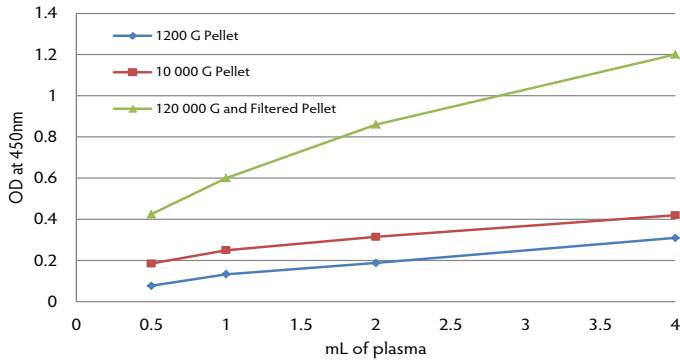


Capture of specific Exosome sub-population

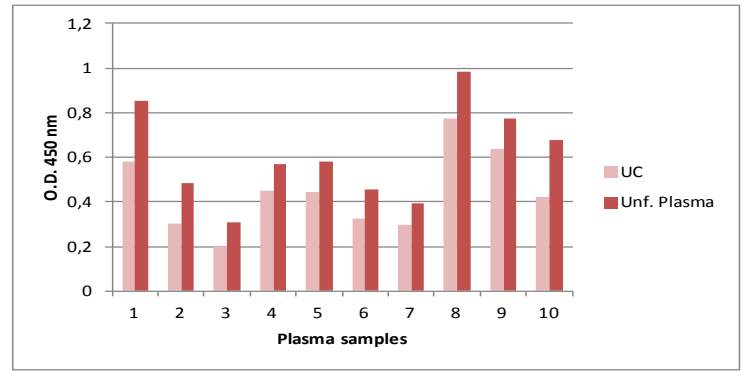
Plates are coated with antibodies overexpressed in particular pathological conditions on exosome surface.

- Capture from human plasma
- Capture and enrichment of tumor, glial, neuro, platelet derived exosomes

Immunoplates for Overall Exosome capture (from human biofluids or from cell culture media)

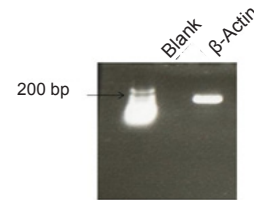


1. HBM plates selectively capture exosomes (pellet after centrifugation 120000g) without other circulating microvesicle contamination (pellet 1200g and 10000g).



2. CD9 detection on purified (ultracentrifuged) plasma exosomes vs unfractionated plasma samples in a set of healthy donors.

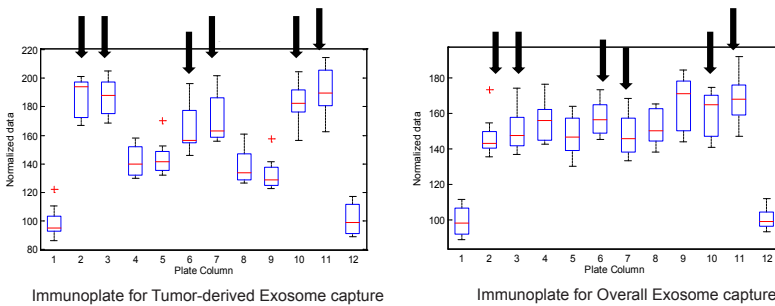
HBM Immunoplates efficiently capture the total exosome population with high specificity and low background (fig 1). They are a useful tool for protein profiling of exosomes without need of any pre-purification, by ultracentrifugation or other methods (fig 2). Moreover, Immunoplates are suitable for nucleic acid extraction and downstream analyses (fig 3).



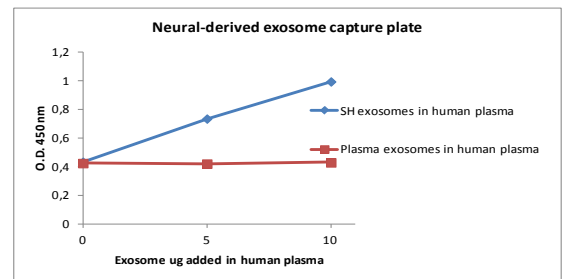
3. RT-PCR analysis and β -actin transcript amplification of mRNA extracted from unfractionated human plasma exosomes captured on immunoplate

Immunoplates for capture and enrichment of specific exosome subpopulations (Tumoral, Neural, Glial, Platelets and Monocyte derived exosomes)

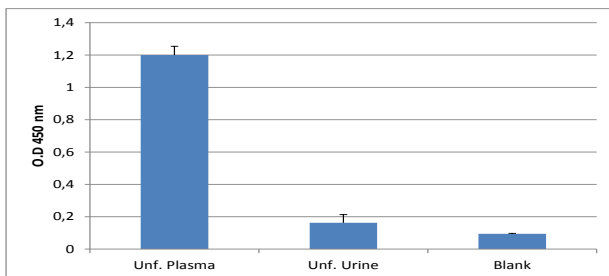
These plates are pre-coated with proprietary capturing antibodies enabling specific isolation and enrichment of exosomes derived from different cell populations (tumor, neural, glial, platelets and monocytes). All immunoplates, showing similar high specificity and low background of the Overall Exosome capture plates, are a unique tool for studying specific exosome subpopulations.



4: Immunoplate for tumor-derived exosomes capture (HBM-PTF) allows discrimination of cancer patients (black arrows) from controls, not possible using Overall Exosome capture (HBM-POF)



5. Specific immunocapture of neuroblastoma (SH) derived exosomes spiked in human plasma from healthy donors using HBM-PNF



6. Specific immunocapture of blood cell derived exosomes from unfractionated human plasma compared to another biofluid (urine) using HBM-PPP.

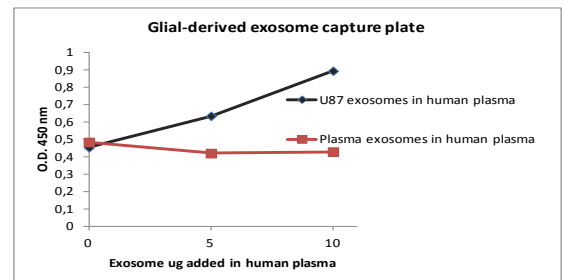


Figure 7. Specific immunocapture of glioblastoma (U87) derived exosomes spiked in human plasma from healthy donors using HBM-PGF