Hansa Bio Med

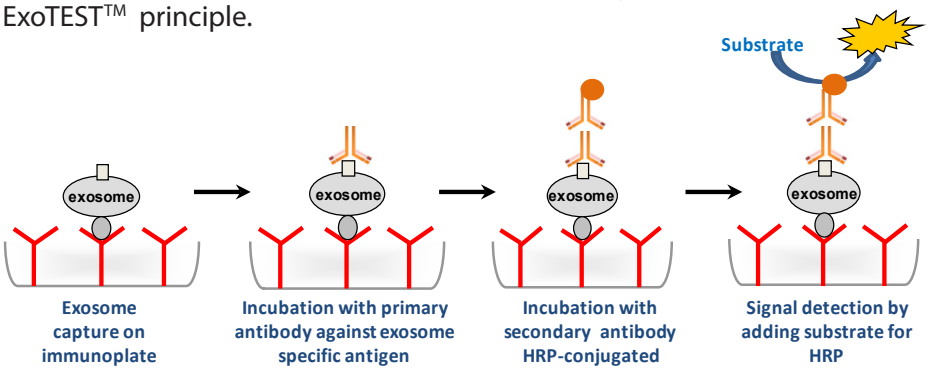
ExoTEST™ Ready to Use Kits for exosome immunocapture and quantification

Double sandwich ELISA assay for exosome immunocapture and quantification from human biofluids or cell culture supernatants

Exosomes are small endosome derived lipid nanoparticles (50-120 nm) actively secreted by exocytosis by most living cells. Exosome release occurs either constitutively or upon induction, under both normal and pathological conditions, in a dynamic, regulated and functionally relevant manner. Both amount and molecular composition of released exosomes depend on the physiological state of parental cells.

ExoTEST™ Ready to use kits for Exosome capture and quantification

The ExoTEST™ platform consists of ELISA plates pre-coated with proprietary antibodies enabling specific immunocapture of exosomes from different biological samples - including cell culture supernatants and human body fluids (plasma, serum, urine) - and a detection antibody for quantification, usually an anti-tetraspanin mAb. A second or third detection antibody can be added in order to target specific markers of interest, after exosome capture and quantification. In addition to exosome capture and quantification, ExoTEST™ enables detection of multiple exosome associated antigens reflecting the physiological state of parental cells, thus providing a unique platform for vesicle-based basic and applied research. The figure below illustrates the ExoTEST™ principle.



ExoTEST™ Kits allow ....

- Exosome capture and quantification from human biofluids and cell supernatants
- Comprehensive exosome biomarker profiling
- Pre-clinical research on non-invasive biomarkers for detection and monitoring of a number of patological conditions (inflammation, cancer, neurodegeneration, etc.)

Advantages

- Ready to use
- Long term storage (up to 2 years)
- Highly efficient enrichment of exosome populations with no purification steps required
- Small amount of sample required (100 ul of sample per well)
- Open platform for customized solutions using different primary detection antibodies
- Available in a TRIAL format (limited to 24 wells, 3 strips) for testing

HBM provides different types of ExoTEST™ kit for overall or specific exosome subpopulation capture and quantification

HBM-ExoTEST™ Kits	
Code	Description
ExoTEST™ Ready to Use Kits for Overall exosome capture and quantification	
HBM-RTK-POF	ExoTEST™ Ready to Use Kit for Overall exosome capture and quantification from human plasma and urine
HBM-RTK-POS	ExoTEST™ Ready to Use Kit for Overall exosome capture and quantification from human serum
HBM-RTK-POC	ExoTEST™ Ready to Use Kit for Overall exosome capture and quantification from cell supernatants
ExoTEST™ Ready to Use Kits for Tumor-derived exosome capture and quantification	
HBM-RTK-PTF	ExoTEST™ Ready to Use Kit for Tumor-derived exosome capture and quantification from human body fluids
Kits are also available in **TRIAL** format for testing, limited to 24 wells (3 ELISA strips). Code **HBM-TRTK-###**	

HBM provides several ExoTEST™ kits for quantification of overall or specific exosome populations from human biofluids (plasma, urine, serum) and from cell culture supernatants.
ExoTEST™ are also available with specific immunoplates for colorimetric (transparent), luminometric (white) or fluorimetric (black) readings.
Customized ExoTEST™ kits can be provided for special research needs or for OEM productions.

ExoTEST™ shows high sensitivity in detecting low exosome amounts

Data reported in figures 1 and 2 show that the sensitivity of ExoTEST™ in detecting exosome associated biomarkers is higher than Western Blotting. Figure 1 shows the standard curve for CD9 in purified exosomes from HD plasma. Figure 2 shows the expression of CD9 on the same sample of purified exosomes from HD plasma vs the recombinant protein in WB. The signal deriving from 10 µg of lyophilized exosomes is equivalent to 0.1 ng of recombinant exosomal protein. Since the standard curve's detection limit is 0.39 µg of lyophilized exosomes (fig 1), the sensitivity of our test can be estimated to be around 39 pg of recombinant protein equivalent (i.e. 2.5 times higher than WB).

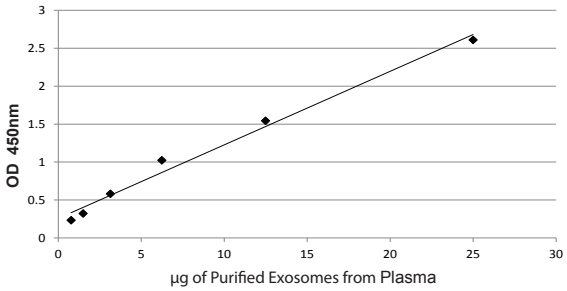


Figure 1. CD9 titration in exosome standards from plasma of healthy donor (HBM-PEP100) using HBM-RTK-POF

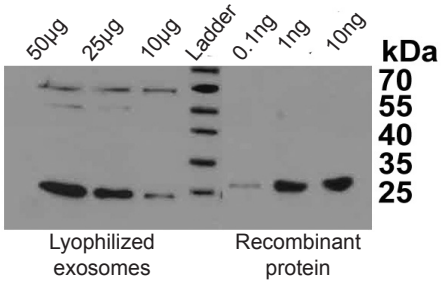


Figure 2. CD9 marker detection by Western Blotting in increasing concentration of exosome standards from plasma of healthy donor (HBM-PEP100) and recombinant CD9 protein

ExoTEST™ allows quantification of exosomes from human biofluids

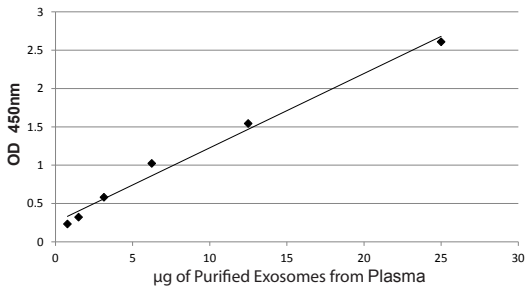


Figure 3. Standard curve obtained with purified plasma exosome standards (HBM-PEP100)

ExoTEST™ enables robust and precise quantification of exosomes from human biofluids, showing consistency among individual samples and different experiments. Standard exosome preparations are provided in the kit to design standard curves and for assay calibration.

ExoTEST™ guarantees quantitative detection of exosomal markers from different biological sources including human biofluids.

ExoTEST™ assays are analytically validated and provide increased sensitivity in detection of exosomal markers with respect to other analytical methods.

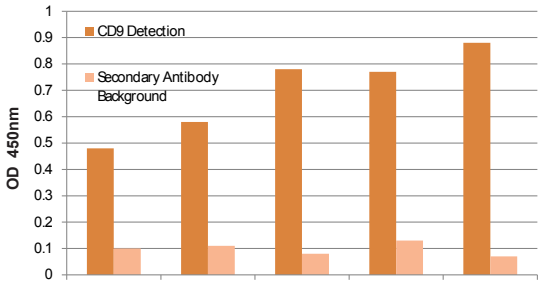


Figure 4. Titration of exosomes from 5 unfractionated HD plasma samples. The column on the right shows the low background observed using only secondary antibody (omitting the primary Ab)

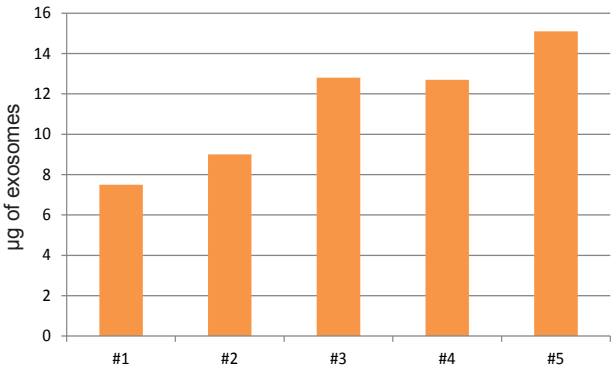


Figure 5. Exosome quantification (in µg) using the standard curve obtained with the exosome standards provided by the Kit in the same 5 unfractionated plasma samples shown in fig 4

Custom made ExoTEST™ Ready to Use Kit
Personalize your Research Tools

HansaBioMed offers the possibility to design and create your own kit for dedicated applications choosing among a wide variety of reagents available in our catalog and beyond:

1-Select the plate that provides the specific capture or enrichment of exosomes of interest

2- Select the most appropriate exosome standard

3- Select the primary antibody for exosome biomarker detection

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