EXO-DNA

Circulating and Exosome-associated DNA extraction kit

Extract easily genomic DNA from exosomes with EXO-DNA

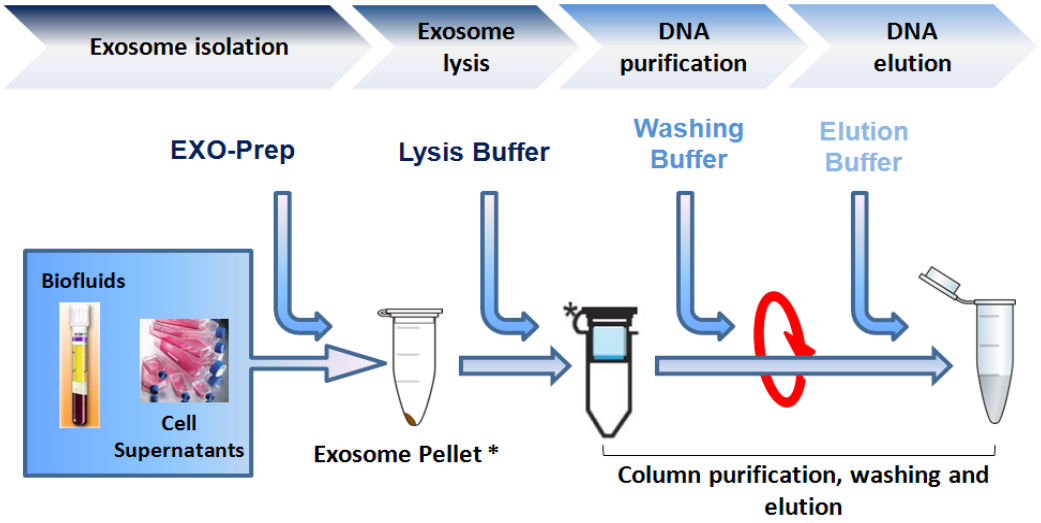
Exosomes and DNA

Together with RNAs, genomic single or double-stranded DNA and mitocondrial DNA have been recently detected in exosomes and microvesicles. In particular the majority of double-stranded DNA seems to be associated with tumor derived exosomes (Thakur BK et al. Cell research 24.6; 2014) where it represents the entire genome of the cancerous tumor from which exosomes were derived. This discovery corroborates the potential of exosomes, which can be easily obtained from a simple blood test. HBM is the first company to develop a kit for the isolation of circulating and Exosome-associated genomic DNA, EXO-DNA.

Get genomic DNA from Exosomes with EXO-DNA

EXO-DNA Kit combines the ability of EXO-Prep to isolate exosomes from a wide range of biofluids (plasma, urine, serum etc..) or culture supernatants with a user friendly system of DNA purification. Isolated exosomes are lysed with the appropriate lysis buffer and exosome DNA is purified by spin columns and optimized buffers with a fast turnaround time (approximatively 30 minutes). In addition EXO-DNA Kit provides lyophilized exosomes to be used as quality controls for exosome capture and DNA extraction.

Cat. Code	Description	Size
EXO-DNA: Isolation of circulating and Exosome-associated genomic DNA		
HBM-DNA-PS-20/#	Isolation of circulating and exosome associated DNA from plasma and serum.	20 reactions
HBM-DNA-PS-40/#		40 reactions
HBM-DNA-UC-20/#	Isolation of circulating and exosome associated DNA from urine and cell culture media.	20 reactions
HBM-DNA-UC-40/#		40 reactions



Applications

- Purification of circulating and exosome-associated DNA.
- Direct exosome capture and DNA purification from biofluids of cell media without time consuming purification steps.
- Isolation and profiling of genomic exosome-associated DNA by DNAse treatment.

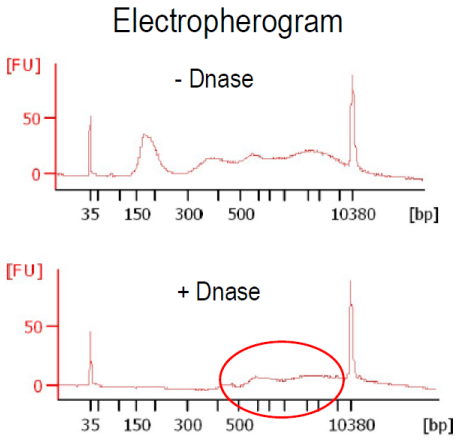
Advantages

- Time saving procedure
- The only kit on the market providing Exosome Standards as control
- Nucleic acids extracted from a small volume amount
- Possibility to profile together circulating and exosome-associated genes.

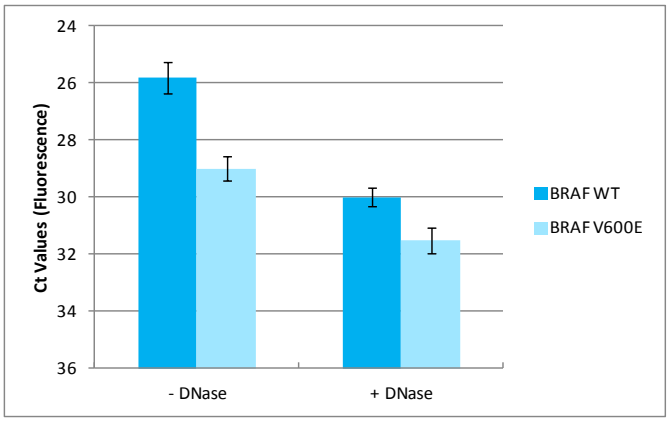
* Pellet of exosomes after isolation can be traeted with Dnase to eliminate cell free circulating DNA. After Dnase treatment DNA extraction from microvesicle proceeds following the same protocol

Exosome-associate DNA is suitable for point mutation analysis by allele-specific PCR.

Healthy donor serum was spiked with 100 µg of purified exosome from BRAFV600E-positive A375 melanoma cell lines. Vesicles were isolated by chemical precipitation with EXO-Prep contained in EXO-DNA kit and treated with or without Dnase 1, to distinguish circulating + Exosome related and only Exosome related DNA. Following digestion, DNA was extracted with EXO-DNA kit and analyzed by bioanalyisis and allele-specific qPCR (Fig 1 and 2).



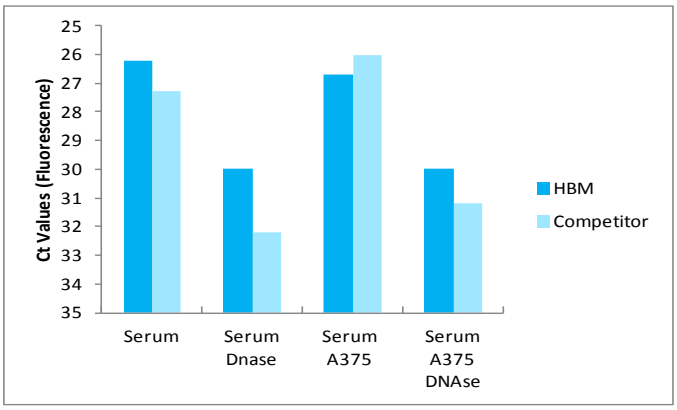
1. Electropherograms of genomic DNA extracted with EXO-DNA Kit with or without Dnase treatment



2. BRAF WT (wild type) and BRAF V600E amplification by qPCR from DNA extracted with EXO-DNA Kit with or without Dnase treatment.

EXO-DNA Kit guarantees high efficiency isolation of circulating and EV-associated DNA

Amplification of beta-actin from exosome-derived DNA. Exosomes were isolated from serum with our without artificial spike (A375-derived exosomes) using EXO-Prep solution and treated (or not) with DNAse I. DNA was extracted with HBM EXO-DNA kit and competitor and beta actin was amplified by qPCR.



3. Beta-actin amplification from exosome-derived DNA, extracted with HBM EXO-DNA Kit and a competitor kit for circulating DNA isolation.

RNA and DNA Extraction and Analysis Service

In addition to the products described in this leaflet, HansaBioMed also provides services for RNA and DNA extraction, quantification and analysis. We can facilitate your research by providing professional services performed by scientists experienced in the exosome field and using state of art equipment. A wide range of services is offered from simple exosome RNA/DNA purification and quantification to biomarker discovery using the most advanced analytical technologies (e.g. NGS).

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