REGION NORDJYLLAND (NORTH DENMARK REGION) – (AALBORG)

EV array

Partnet AALBORG has recently demonstrated that microarrays can capture extracellular vesicles fitting the description of exosomes expressing CD9, CD63 and/or CD81 and having a size of 30–100 nm[1].

The Extracellular Vesicle Array (EV Array) is a sandwich-ELISA-based method capturing exosomes using an antibody panel targeting the extracellular domain of selected membrane or membrane-associated proteins. The EV Array constitutes a fast, automated, economical and highly sensitive method for exploration of plasma exosomes while consuming as little as 10 µL sample.
The EV Array has shown great potential in the development of a plasma test for lung cancer detection owed to the easy accessibility of blood samples and the minimal discomfort for the patients providing them.

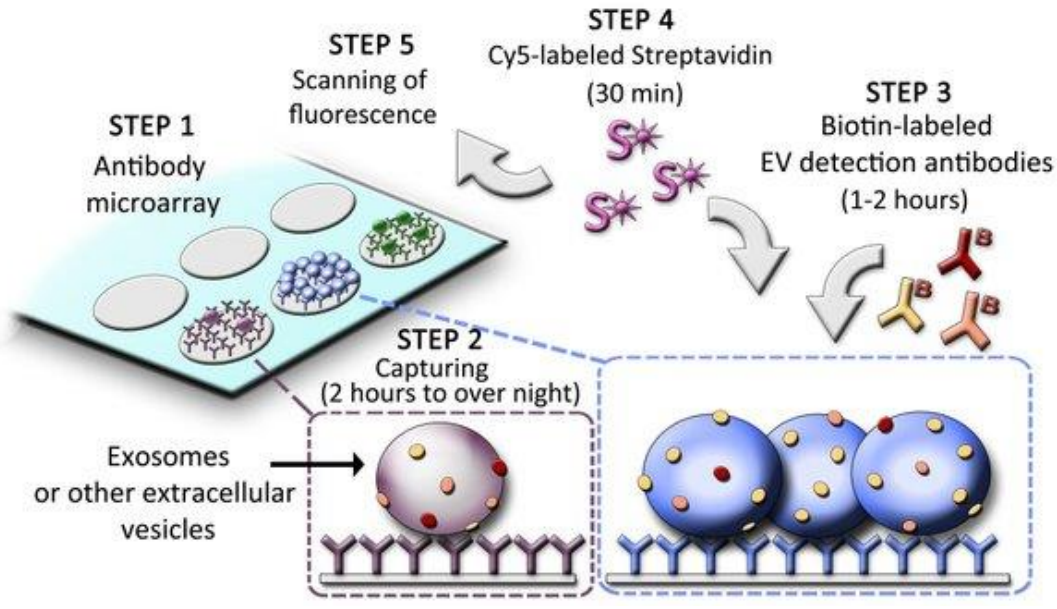
The EV array analytical process requires five steps:

Step 1: The EV Array is composed of different capture antibodies printed on a microarray slide.

Step 2: 10-100 µL plasma or other body fluids (urine, saliva, BALF, etc.) are applied in a 96-well setup and incubated 2 hours to overnight.

Step 3: The EVs are detected with a cocktail of biotinylated antibodies.

Step 4/5: The presence and thereby phenotype of EVs is visualized after incubation with Cy5-labeled Streptavidin using a fluorescence scanner.



Schematic representation of the principle of the Extracelluar Vesicle Array

1) Jørgensen M, Bæk R, Pedersen S, Søndergaard EKL, Kristensen SR, Varming K. Extracellular vesicle (EV) Array: microarray capturing of exosomes and other extracellular vesicles for multiplexed phenotyping. J Extracell Vesicles. 2013; 2: 1–9.[Taylor & Francis Online], [Google Scholar]),