

## Flow Cytometric Analysis of Extracellular Vesicles

**Direct staining inside** of the vesicles

### Samples:

isolated large or medium size vesicles from the supernatant of the cell culture. (We always use freshly isolated Evs.)

### Preparations:

#### **Buffers:**

- Prepare 0,2um filtered PBS and 4% PFA.

#### **Anti-body:**

- Dilute the antibody ten folds with PBS (All antibodies are diluted, including the isotype.)
- Centrifuge at 12500 g for 1 minute at 4C
- Pipette the supernatant to a new eppendorf tube (**AB**)
- Protect from the light!

### Sample Preparations:

- add 10-100 uL EV suspension to FACS tubes. ( The volume is depend on the concentration of the EV suspension. Not use too concentrated suspension. )
- add 100-100 uL 0,2 um filtered 4% PFA to FACS tubes.
- add 5-5 uL AB to FACS tubes
- Incubation: 10 minutes, RT, protected from light
- add 0,2 um filtered PBS to FACS tubes, such that final volume can be 300 uL.
- Add 50-100 uL count check bead

(If we have to determine the absolute number of the vesicles, we have to use Count Check beads. For examples: 50uL from the medium count check beads, or 100 uL from the low count check beads, or 50 uL from PKH-beads. Any bead can be used well, but it is always necessary to know how many beads we have put in the tubes, because later we calculate the absolute vesicle number based on this.)

#### Measuring Extracellular Vesicles by FACSCalibur:

- Open the measuring protocol: Empty/EV protocols/iEV protocol
- Instrument settings: Empty/EV settings/iEV setting
- Acquisition and storage: 1 minute
- Triton lysis not works on fixed samples!

#### Required Controls:

(These technical controls are required to evaluate the measurement. )

- Unstained sample
- Buffer+AB
- Sample+isotype control