

Materials List for:

# Rapid Fluorescence-based Characterization of Single Extracellular Vesicles in Human Blood with Nanoparticle-tracking Analysis

Andreas Weber<sup>1</sup>, Julia Christin Wehmeyer<sup>1</sup>, Vera Schmidt<sup>1</sup>, Artur Lichtenberg<sup>1</sup>, Payam Akhyari<sup>1</sup>

<sup>1</sup>Department of Cardiovascular Surgery, Medical Faculty, Heinrich-Heine-University

Correspondence to: Artur Lichtenberg at [artur.lichtenberg@med.uni-duesseldorf.de](mailto:artur.lichtenberg@med.uni-duesseldorf.de)

URL: <https://www.jove.com/video/58731>

DOI: [doi:10.3791/58731](https://doi.org/10.3791/58731)

## Materials

| Name                                                  | Company            | Catalog Number | Comments                                         |
|-------------------------------------------------------|--------------------|----------------|--------------------------------------------------|
| Serum-separation tube                                 | BD                 | 366882         | BD Vacutainer                                    |
| Ampuwa water                                          | Fresenius Kabi     | 10060          |                                                  |
| Dulbecco's phosphate-buffered saline                  | Sigma              | 56064C         |                                                  |
| Falcon tube, 15 mL                                    | Greiner Bio One    | 188271         |                                                  |
| Falcon tube, 50 mL                                    | Greiner Bio One    | 227270         |                                                  |
| Microcentrifuge tube, 1.5 mL                          | Eppendorf          | 30120086       | Speciality tubes for ultra centrifugation        |
| Tube with Snap-On Cap 1.5 mL                          | Beckman Coulter    | 357448         |                                                  |
| Polybeads Microspheres 0.2 µm                         | Polysciences, Inc. | 7304           | Alignment Solution                               |
| Fluoresbrite YG Carboxylate Microspheres beads 0.2 µm | Polysciences, Inc. | 09834-10       | Alignment Solution                               |
| Syringe, 2 mL                                         | Braun              | 4606027V       |                                                  |
| Syringe, 10 mL                                        | Braun              | 4606728V       |                                                  |
| Exoquick                                              | SBI                | EXOQ20A-1      | EV precipitation solution                        |
| Laemmli Sample Buffer (2x)                            | BioRad             | 1610737        |                                                  |
| DC Protein Assay Kit II                               | BioRad             | 5000112        | Lowry protein assay                              |
| PKH67 Green Fluorescent Cell Linker Kit               | Sigma              | PKH67GL-1KT    | For general membrane labelling                   |
| Alexa Fluor 488 anti-human CD107a Antibody            | BioLegend          | 328609         | Lysosomal-associated membrane protein-1 (LAMP-1) |
| Human CD9-Alexa Fluor 488                             | R&D Systems        | FAB1880G       |                                                  |
| Anti-CD9 Antibody                                     | SBI                | EXOAB-CD9A-1   |                                                  |
| CD63-Alexa Fluor 488                                  | ThermoFisher       | MA5-18149      |                                                  |
| FITC anti-human CD63 Antibody                         | BioLegend          | 353005         |                                                  |
| CD63. Antibody, polyclonal                            | SantaCruz          | Sc-15363       |                                                  |
| Alexa Fluor 488 anti-vimentin Antibody                | BioLegend          | 677809         |                                                  |
| Anti-Vimentin Antibody                                | SBI                | EXOAB-VMTN-1   |                                                  |
| Goat anti mouse IgG + IgM                             | Jackson Immuno     | 315-035-048    |                                                  |
| Goat anti rabbit IgG                                  | Dianova            | 111-035-003    |                                                  |
| SuperSignal West Femto Maximum Sensitivity Substrate  | ThermoFisher       | 34094          |                                                  |
| ZetaView                                              | Particle Metrix    | PMX 100, Type  |                                                  |
| Centrifuge                                            | Eppendorf          | 5804R          |                                                  |
| Ultracentrifuge                                       | Beckman Coulter    | Optima MAX-XP  |                                                  |

---

|                          |               |                     |  |
|--------------------------|---------------|---------------------|--|
| Chemiluminescence Imager | GE Healthcare | Amersham Imager 600 |  |
|--------------------------|---------------|---------------------|--|