

Materials List for:

Flow Cytometry-based Assay for the Monitoring of NK Cell Functions

Sara Tognarelli^{1,2}, Benedikt Jacobs^{3,4}, Nina Staiger^{1,2}, Evelyn Ullrich^{1,2}

¹Childrens Hospital, Department of Pediatric Stem Cell Transplantation and Immunology, Johann Wolfgang Goethe-University

²LOEWE Center for Cell and Gene Therapy, Johann Wolfgang Goethe-University

³Institute for Cancer Research, Department of Cancer Immunology, Oslo University Hospital, Radiumhospital

⁴The KG Jebsen Center for Cancer Immunotherapy, Institute of Clinical Medicine, University of Oslo

* These authors contributed equally

Correspondence to: Evelyn Ullrich at Evelyn.Ullrich@kgu.de

URL: <https://www.jove.com/video/54615>

DOI: [doi:10.3791/54615](https://doi.org/10.3791/54615)

Materials

Name	Company	Catalog Number	Comments
RPMI 1640 + glutamine	Invitrogen	6187-044	
penicilin/streptomycin	Invitrogen	15140-122	
BD Falcon Round Bottom Tube	BD	352008	
fetal calf serum	Invitrogen	10270-106	heat inactivated before use
T-flask	Greiner Bio-One	690195	
K562 tumor cell line	DSMZ GmbH	ACC 10	
ammonium-chloride-potassium (ACK) lysis buffer	made in house	/	components are listed in the text
Distilled water: Ampuwa Spüllösung 1,000 ml Plastipur	Fresenius Kabi	1088813	
Megafuge 40R Centrifuge	Heraeus	/	
EDTA blood collector tubes	Sarstedt	386453	S-Monovette 7.5 ml, K ₃ EDTA
UltraPure 0.5 M EDTA, pH 8.0	Life Technologies	15575-020	
Hematopoietic media (XVIVO)	Lonza Group Ltd	BE04-743Q	
human serum	DRK Blutspendedienst, Frankfurt/M	/	healthy donors with blood type AB; heat inactivated before use
Neubauer-improved counting chamber, bright line	Marienfeld superior/ LO-Laboroptik Ltd.	0640030/ 1110000	
trypan blue solution (0.4%)	Invitrogen	15250-061	
3% acetic acid with methylene blue	Stemcell Technologies	07060	
Corning 96 Well Clear V-Bottom TC-treated Microplates	Corning	3894	
Falcon 96 Well Round Bottom Not Treated Microplates	Corning	351177	
DPBS (Ca ²⁺ - and Mg ²⁺ -free)	Gibco Invitrogen	14190-169	
BSA	Sigma Aldrich	A2153-100G	
NaN ₃	Sigma Aldrich	08591-1ML-F	
phorbol 12-myristate 13-acetate (PMA)	Merck	524400-1MG	
ionomycin	PromoKine	PK-CA577-1566-5	
interleukin 15 (IL-15)	PeproTech	200-15	
Proleukin S (IL-2)	Novartis Pharma	730523	
Golgi Stop, Protein Transport Inhibitor (containing Monensin)	BD Biosciences	554724	This product can be used in combination or instead of Golgi Plug. The best combination for the

			wished experimental setting has to be tested.
Golgi Plug, Protein Transport Inhibitor (containing Brefeldin A)	BD Biosciences	555029	
paraformaldehyde	AppliChem	UN2209	
saponin	Sigma Aldrich	47036	
flow cytometer: Canto10C	BD Biosciences	/	
FlowJo	TreeStar Inc.	/	
Graph Pad	Graph Pad Inc.	/	
MACSxpress Separator	Miltenyi Biotec	130-098-308	
MACSxpress NK isolation kit	Miltenyi Biotec	130-098-185	
MACSxpress Erythrocyte Depletion Kit, human	Miltenyi Biotec	130-098-196	
MACSmix Tube Rotator	Miltenyi Biotec	130-090-753	
anti-human CD3 APC	Biolegend	300412	
anti-human CD3 V450	BD Biosciences	560366	
anti-human CD14 PerCP	Miltenyi Biotec	130-094-969	
anti-human CD14 V450	BD Biosciences	560349	
anti-human CD16 PE	Biolegend	302008	
anti-human CD16 PerCP	Biolegend	302029	
anti-human CD19 PE-Cy7	Biolegend	302216	
anti-human CD19 V450	BD Biosciences	560353	
anti-human CD45 BV510	BD Biosciences	563204	
anti-human CD56 FITC	Biolegend	345811	
anti-human CD107a PE	Biolegend	328608	
anti-human IFN- γ AF-647	BD Biosciences	557729	
anti-human MIP-1 β APC-H7	BD Biosciences	561280	
DAPI	Biolegend	422801	
Zombie Violet Fixable Viability Kit	Biolegend	423113	fixable dead cell marker