

Materials List for

Isolation of Exosome-Enriched Extracellular Vesicles Carrying Granulocyte-Macrophage Colony-Stimulating Factor from Embryonic Stem Cells

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Materials

Name	Company	Catalog Number	Comments
Alkaline phosphate, Calf Intestinal	New England Biolabs	M0290S	Dephosphorylating DNA plasmid
anti-Annexin V mAb	Santa Cruz Biotechnology	clone H-3, sc-74438	Western blot, RRID:AB_1118989
anti-CD81 mAb	Santa Cruz Biotechnology	clone B-11, sc-166029	Western blot, RRID:AB_2275892
anti-cytochrome c mAb	Santa Cruz Biotechnology	clone A-8, sc-13156	Western blot, RRID:AB_627385
anti-Flotillin-1 mAb	Santa Cruz Biotechnology	clone C-2; sc-74566	Western blot, RRID:AB_2106563
anti-GAPDH pAb	Rockland	600-401-A33S	Western blot, RRID:AB_11182910
anti-mouse IgG, goat, peroxidase-conjugated	Thermo Fisher	31430	Western blot, RRID:AB_228307
anti-Oxphos COX IV-subunit IV mAb	Thermo Fisher	clone 20E8C12 A21348	Western blot, RRID:AB_221509
anti-protein disulfide isomerase (PDI) pAb	Enzo	ADI-SPA-890	Western blot, RRID:AB_10616242
anti-rabbit IgG, goat, peroxidase-conjugated	Thermo Fisher	31460	Western blot, RRID:AB_228341
BCA (bicinchoninic acid) assay	Thermo Fisher	23223	Determining protein concentrations
Bis-Tris PAGE Gel, ExpressPlus, 4-20%	Genscript	M42015	Western blot
Carbenicillin, Disodium Salt	Thermo Fisher	10177012	Selecting <i>E. coli</i> colonies
Centrifuge, Avanti J-26 XPI	Beckman Coulter		Low speed centrifugation
Centrifuge rotor, JA-10	Beckman Coulter	09U1597	Low speed centrifugation
Centrifuge bottle, Nalgene PPCO	Thermo Fisher	3120-0500PK	Low speed centrifugation
Cu grids with carbon support film	Electron Microscopy Sciences	FF200-Cu	Acquiring electron microscopy images
EcoRI	New England Biolabs	R0101	Digesting DNA plasmid
Enhanced chemiluminescence detection system	Thermo Fisher	32106	Western blot
FACScalibur flow cytometer	Becton Dickinson		Examining GFP levels of ES-D3 cells

Fetal bovine serum	ATCC	SCRR-30-2020	Medium for ES-D3 cells
Fisherbrand Sterile Cell Strainers; Mesh Size: 40µm	Thermo Fisher	22-363-547	Filtering ES-D3 cells for FACS sorting
Gelatin (0.1%)	Thermo Fisher	ES006B	Culturing ES-D3 cells
GM-CSF ELISA kit	Thermo Fisher	88733422	Determining GM-CSF concentrations
KnockOut Dulbecco's Modified Eagle's Medium	Thermo Fisher	10-829-018	Medium for ES-D3 cells
Leukemia Inhibitory Factor	Thermo Fisher	ESG1106	Medium for ES-D3 cells
L-glutamine	VWR	VWRL0131-0100	Medium for ES-D3 cells
Lipofectamine 2000 transfection reagent	Thermo Fisher	11668019	Transfecting ES-D3 cells
Microplate reader, PowerWave XS	BioTek		Determining GM-CSF concentrations
MoFlo XDP high-speed cell sorter	Beckman Coulter		Isolating single ES-D3 cell clones
NEB 5-alpha Competent E. coli	New England Biolabs	C2988J	Generating GM-CSF expression plasmid
Neomycin	Thermo Fisher	10-131-035	Selecting ES-D3 clones
Non-essential amino acids	Thermo Fisher	SH3023801	Medium for ES-D3 cells
Non-fat dry milk	Thermo Fisher	NC9022655	Western blot
Opti-MEM I Reduced Serum Medium	Thermo Fisher	31985062	Transfecting ES-D3 cells
Paraformaldehyde	Electron Microscopy Sciences	15710	Acquiring electron microscopy images
Penicillin/streptomycin	VWR	sc45000-652	Medium for ES-D3 cells
Plasmid pEF1a-FD3ER-IRES-hrGFP	Addgene	37270	Generating GM-CSF expression plasmid
PVDF membranes	Millipore EMD	IPVH00010	Western blot
QIAprep Spin Miniprep Kit (250)	QIAGEN	27106	Generating GM-CSF expression plasmid
QIAquick Gel Extraction Kit (50)	QIAGEN	28704	Generating GM-CSF expression plasmid
Quick Ligation Kit	New England Biolabs	M2200S	Generating GM-CSF expression plasmid
Transmission electron microscope	Hitachi	HT7700	Acquiring electron microscopy images
Trypsin	VWR	45000-660	Culturing ES-D3 cells
Ultracentrifuge, Optima™ L-100 XP	Beckman Coulter		High speed centrifugation
Ultracentrifuge rotor, 45Ti	Beckman Coulter	09U4454	High speed centrifugation
Ultracentrifuge polycarbonate bottle	Beckman Coulter	355622	High speed centrifugation
UranYLess staining solution	Electron Microscopy Sciences	22409	Acquiring electron microscopy images