

Materials List for:

Laboratory Scale Production and Purification of a Therapeutic Antibody

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Materials

Name	Company	Catalog Number	Comments
pFUSE vector series	InvivoGen	N/A	Heavy and light antibody genes expressed in separate vectors that require co-transfection.
mAbXpress vector series	ACYTE Biotech Pty Ltd.		Heavy and light antibody genes expressed in separate vectors that require co-transfection. Refer to: Jones, M. L. et al. A method for rapid, ligation-independent reformatting of recombinant monoclonal antibodies. <i>J Immunol Methods</i> . 354 (1-2), 85-90, doi:10.1016/j.jim.2010.02.001, (2010).
pVITRO1 vector	N/A	N/A	Heavy and light antibody genes are each driven by a separate promoter in a single vector. Refer to: Dodev, T. S. et al. A tool kit for rapid cloning and expression of recombinant antibodies. <i>Sci Rep</i> . 4 5885, doi:10.1038/srep05885, (2014).
GS vector series	Lonza		Multi-cistronic vector with heavy and light antibody genes co-expressed and translated as single transcript.
Multi-cistronic vector series 1	N/A	N/A	Multi-cistronic vector with heavy and light antibody genes co-expressed and translated as single transcript. Refer to: Li, J. et al. A comparative study of different vector designs for the mammalian expression of recombinant IgG antibodies. <i>J Immunol Methods</i> . 318 (1-2), 113-124, doi:10.1016/j.jim.2006.10.010, (2007).
Multi-cistronic vector series 2	N/A	N/A	Multi-cistronic vector with heavy and light antibody genes co-expressed and translated as single transcript. Refer to: Ho, S. C. et al. IRES-mediated Tricistronic vectors for enhancing generation of high monoclonal antibody expressing CHO cell lines. <i>J Biotechnol</i> . 157 (1), 130-139, doi:10.1016/j.jbiotec.2011.09.023, (2012).
pVITRO1-Trastuzumab-IgG1/k	Addgene	61883	Mammalian expression vector containing trastuzumab antibody genes with hygromycin resistance gene; pVITRO1-Trastuzumab-

			IgG1/k was a gift from Andrew Beavil.
Fast-Media Hygro Agar	Jomar Life Research	fas-hg-s	Used to prepare low salt LB agar containing 75 µg/ml hygromycin.
Fast-Media Hygro TB	Jomar Life Research	fas-hg-l	Used to prepare low salt TB broth containing 75 µg/ml hygromycin.
Glycerol, BioXtra, ≥99%	Sigma-Aldrich	G6279	Prepare to 80% with water and autoclave. Store at room temperature.
Jestar 2.0/LFU Plasmid Maxi Kit	Astral Scientific	G221020	Plasmid Maxi Prep Kit; elute or resuspend DNA in water (pH 7.0-8.5).
FreeStyle 293-F Cells	Life Technologies	R790-07	HEK-293 cell line adapted to suspension culture in serum-free media.
FreeStyle 293 Expression Medium	Life Technologies	12338-018	Serum-free media specially formulated for maintaining 293-F cell line and high protein expression.
Kolliphor P188	Sigma-Aldrich	K4894	Non-ionic surfactant; pluronic F-68; prepare to 10% in water and filter-sterilize using 0.22 µm filter. Store at 4 °C.
DMEM, high glucose	Life Technologies	11995-065	
Heat-Inactivated Foetal Bovine Serum	Life Technologies	10082-147	
Polyethylenimine, Linear, MW 25,000	Polysciences, Inc.	23966	Prepare to 1 mg/ml in water. Adjust to pH 7.0 with 1 M HCl (solution becomes clear) and filter-sterilize using 0.22 µm filter. Store at -80 °C until use.
OptiPro SFM	Life Technologies	12309-050	Transfection formulated serum-free media
Hygromycin B Solution	Jomar Life Research	ant-hg-1	
Dimethylsulphoxide (DMSO)	Thermo Fisher Scientific	AJA2225	
Tryptone (casein peptone)	Thermo Fisher Scientific	LP0042B	Prepare to 20% in PBS and filter-sterilize using 0.22 µm filter. Store at 4 °C.
Phosphate Buffered Saline (PBS) Tablets, pH 7.4, 100 ml	Astral Scientific	09-2051-100	
HiTrap Protein A High Performance, 1 x 5 ml column	Sigma-Aldrich	GE17-0403-01	
AKTApurifier 100	GE Healthcare	28406266	Automated FPLC system, which can include a P-960 sample pump and Frac-920 fraction collector.
Glycine-HCl	Sigma-Aldrich	G2879	
Citric Acid, monohydrate	Astral Scientific	BIOC2123	
Sodium Citrate, trisodium salt dihydrate	Astral Scientific	BIOCB0035	
1 M Tris-HCl solution pH 9.0	Astral Scientific	BIOSD8146	
Amicon Ultra Centrifugal Filters (30 MWCO)	Merck Millipore	UFC803008/UFC903008	Used to buffer exchange and concentrate purified protein.
Pierce Bicinchoninic Acid (BCA) Assay Kit	Thermo Fisher Scientific	23227	
BLItz System	fortéBIO	45-5000	Instrument used for bio-layer interferometry (BLI) measurements.

Protein A biosensors	fortéBIO	18-5010	
Acrylamide/Bisacrylamide (37.5:1), 40% solution	Astral Scientific	786-502	
Ammonium Persulfate (APS)	Astral Scientific	AM0486	
TEMED	Astral Scientific	AM0761	
Coomassie Brilliant Blue R-250	Astral Scientific	786-498	
Precision Plus Dual-Color Protein Standard	Bio-Rad	1610374	