

Materials List for:

Construction of Synthetic Phage Displayed Fab Library with Tailored Diversity

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Materials

Name	Company	Catalog Number	Comments
Reagents			
1.0 M H ₃ PO ₄	Fisher	AC29570	
1.0 M Tris, pH 8.0	Invitrogen	15568-025	
10 mM ATP	Invitrogen	18330-019	
100 mM dithiothreitol	Fisher	BP172	
100 mM dNTP mix	GE Healthcare	28-4065-60	solution containing 25 mM each of dATP, dCTP, dGTP and dTTP.
3,3',5,5'-tetramethylbenzidine (TMB)	Kirkegaard & Perry Laboratories Inc	50-76-02	
50X TAE	Invitrogen	24710030	
Agarose	Fisher	BP160	
Carbenicillin, carb	Sigma	C1389	100 mg/mL in water, 0.22 µm filter-sterilize, work concentration: 100 µg/mL.
Chloramphenicol, cmp	Sigma	C0378	100 mg/mL in ethanol, 0.22 µm filter-sterilize, work concentration: 10 µg/mL.
EDTA 0.5 M, pH 8.0	Invitrogen	AM9620G	
Granulated agar	VWR	J637-500G	
H ₂ O ₂ peroxidase substrate	Kirkegaard & Perry Laboratories Inc	50-65-02	
K ₂ HPO ₄	Sigma	795488	
Kanamycin, kan	Fisher	AC61129	50 mg/mL in water, 0.22 µm filter-sterilize, work concentration: 50 µg/mL.
KH ₂ PO ₄	Sigma	P2222	
Na ₂ HPO ₄	Sigma	94046	
NaCl	Alfa Aesar	U19C015	
Nanodrop	Fisher	ND2000C	
NaOH	Fisher	SS256	! CAUTION NaOH causes burns.
NON-Fat Powdered Milk	Sangon Biotech	A600669	
PEG-8000	Fisher	BP233	
Protein A-HRP conjugate	Invitrogen	101123	
QIAprep Spin M13 Kit	Qiagen	22704	
QIAquick Gel Extraction Kit	Qiagen	28706	

QIAquick PCR Purification Kit	Qiagen	28104	
Recombinant Protein L	Fisher	77679	
T4 DNA polymerase	New England Biolabs	M0203S	
T4 polynucleotide kinase	New England Biolabs	M0201S	
T7 DNA polymerase	New England Biolabs	M0274S	
Tetracycline, tet	Sigma	T7660	50 mg/mL in water, 0.22 µm filter-sterilize, work concentration: 10 µg/mL.
Tryptone	Fisher	0123-07-5	
Tween-20	Sigma	P2287	
Ultrapure glycerol	Invitrogen	15514-011	
Uridine	Sigma	U3750	25 mg/mL in ethanol, work concentration: 0.25 µg/mL.
Yeast extract	VWR	DF0127-08	
Name	Company	Catalog Number	Comments
Strains			
<i>E. coli</i> CJ236	New England Biolabs	E4141	Genotype: <i>duf⁻ ung⁻ thi-1 relA1 spoT1 mcrA/pCJ105(F' cam^r)</i> . Used for preparation of dU-ssDNA.
<i>E. coli</i> SS320	Lucigen	60512	Genotype: [<i>F'</i> proAB+ <i>lacIq lacZΔM15 Tn10 (tet^r)</i>] <i>hsdR mcrB araD139 Δ(araABC-leu)7679 ΔlacX74 galUgalK rpsL thi</i> . Optimized for high-efficiency electroporation and filamentous bacteriophage production.
M13KO7	New England Biolabs	N0315S	
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Equipment			
0.2-cm gap electroporation cuvette	BTX		
96-well 2mL Deep-well plates	Fisher	278743	
96-well Maxisorp immunoplates	Nunc	151759	
Baffled flasks	Corning		
Benchtop centrifuge	Eppendorf	5811000096	
Centrifuge bottles	Nalgene		
ECM-630 electroporator	BTX		
Magnetic stir bars	Nalgene		
Thermo Fisher centrifuge	Fisher		
High speed shaker	TAITEK	MBR-034P	
Microplate shaker	QILINBEIER	QB-9002	
Liquid handler for 96 and 384 wells	RAININ		
Mutil-channel pipette	RAININ	E4XLS	
Amicon concentrator	Merck	UFC803096	