

Materials List for

Rapid, Enzymatic Methods for Amplification of Minimal, Linear Templates for Protein Prototyping using Cell-Free Systems

Jared L. Dopp¹, Nigel F. Reuel¹

¹Chemical and Biological Engineering, Iowa State University

Corresponding Author

Nigel F. Reuel

reuel@iastate.edu

Citation

Dopp, J.L., Reuel, N.F. Rapid, Enzymatic Methods for Amplification of Minimal, Linear Templates for Protein Prototyping using Cell-Free Systems. *J. Vis. Exp.* (172), e62728, doi:10.3791/62728 (2021).

Date Published

June 14, 2021

DOI

10.3791/62728

URL

jove.com/video/62728

Materials

Name	Company	Catalog Number	Comments
Alaline	Formedium	DOC0102	
Ammonium glutamate	MP Biomedicals	MP21805951	
Arginine	Formedium	DOC0106	
Asparagine	Formedium	DOC0114	
Aspartic Acid	Formedium	DOC0118	
ATP	Sigma	A2383	
Axygen Sealing Film	Corning	PCR-SP	
CMP	Sigma	C1006	
Coenzyme A	Sigma	C3144	
CutSmart Buffer	NEB	B7204S	Provided with HindIII
Cysteine	Formedium	DOC0122	
DNA Clean and Concentrator Kit	Zymo Research	D4004	Used for purifying DNA
dNTPs	NEB	N0447	
E. coli tRNA	Sigma (Roche)	10109541001	
Folinic Acid	Sigma	47612	
Gene Fragment	IDT		
Glutamic Acid	Formedium	DOC0134	
Glutamine	Formedium	DOC0130	
Glycine	Formedium	DOC0138	
GMP	Sigma	G8377	
HEPES	Sigma	H3375	
HindIII-HF	NEB	R3104L	
Histidine	Formedium	DOC0142	
Isoleucine	Formedium	DOC0150	
Leucine	Formedium	DOC0154	
Lysine	Formedium	DOC0158	

Magnesium glutamate	Sigma	49605	
Methionine	Formedium	DOC0166	
Microtiter Plate (384 well)	Greiner	781906	
Microtiter Plate (96 well)	Greiner	655809	
Multimode Plate Reader	BioTek	Synergy Neo2	
NAD	Sigma	N8535	
NanoPhotometer	Implen	NP80	
OneTaq DNA Polymerase	NEB	M0480	
PCR Tube	VWR	20170-012	
Phenylalanine	Formedium	DOC0170	
Phosphoenolpyruvate	Sigma (Roche)	10108294	
Potassium glutamate	Sigma	G1501	
Potassium oxalate	Fisher Scientific	P273	
Proline	Formedium	DOC0174	
Putrescine	Sigma	P5780	
Serine	Formedium	DOC0178	
Spermidine	Sigma	S0266	
T4 DNA Ligase	NEB	M0202S	
T4 DNA Ligase Reaction Buffer	NEB	B0202S	Provided with T4 DNA Ligase
TempliPhi Amplification Kit	Cytiva	25640010	Used for RCA
Thermal Cycler	Biorad	C1000 Touch	
Thermoblock	Eppendorf	ThermoMixer FP	
Threonine	Formedium	DOC0182	
Tryptophan	Formedium	DOC0186	
Tyrosine	Formedium	DOC0190	
UMP	Sigma	U6375	
Valine	Formedium	DOC0194	