Nucleus Protocols

Make OnePot Protein Mix — Bill of Materials

Name	Category	Product	Manufacturer	Part #	Price	Storage	Link
HEPES	Salts	HEPES, Crystalline Powder, ≥99.5% (titration), Poly bottle	Sigma-Aldrich	H3375-500G	$431	4 °C to 30 °C	link
Magnesium chloride	Salts	Magnesium chloride hexahydrate, BioXtra, ≥99.0%	Sigma-Aldrich	M2670-500G	$115.00	4 °C to 30 °C	link
Potassium chloride	Salts	Potassium Chloride, ACS reagent, 99.0-100.5%	Sigma-Aldrich	P3911-1KG	$146.00	4 °C to 30 °C	link
Ammonium chloride	Salts	Ammonium chloride, ACS reagent, ≥99.5%	Sigma-Aldrich	213330-500G	$73.50	4 °C to 30 °C	link
Potassium hydroxide	Salts	Potassium hydroxide - ACS reagent, ≥85%, pellets	Sigma-Aldrich	221473-1KG	$99.90	4 °C to 30 °C	link
Imidazole	Salts	ReagentPlus® Imidazole, Crystalline, 99%	Sigma-Aldrich	I202-500G	$120	4 °C to 30 °C	link
Potassium glutamate	Salts	L-Glutamic acid potassium monohydrate	Sigma-Aldrich	G1501-100G	$74.80	4 °C to 30 °C	link
Magnesium acetate	Salts	Magnesium acetate tetrahydrate	Sigma-Aldrich	M0631-100G	$34.80	4 °C to 30 °C	link
EDTA	Salts	Ethylenediaminetetraacetic acid, BioUltra, ≥99.0% (KT)	Sigma-Aldrich	03609-250G	$139.00	4 °C to 30 °C	link
Glycerol	Supplements	Glycerol, Molecular Biology Grade, Liquid, ≥99.0%	Sigma-Aldrich	G5516-1L	$157.00	4 °C to 30 °C	link

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TCEP	Reagent	Thermo Scientific, Bond-Breaker® Tris[2-Carboxyethyl]phosphine Neutral Solution (TCEP), Application=Water-Soluble Reducing Agent, Molecular Weight=286.65, Size=5 mL	Thermo Scientific	77720	$175.65	4 °C to 30 °C	link
Creatine phosphate	Reagent	Sodium creatine phosphate dibasic tetrahydrate, ≥98.0%(NT)	Sigma-Aldrich	27920-1G	$102	−25 °C to −15 °C	link
Folinic acid	Reagent	Folinic acid calcium salt hydrate	Sigma-Aldrich	F7878-100MG	$108	4 °C to 30 °C	link
Spermidine	Reagent	Spermidine, ≥99% (GC)	Sigma-Aldrich	S2626-5G	$176	−25 °C to −15 °C	link
Amino acids	Reagent	L-Amino acids, analytical standard	Sigma-Aldrich	LAA21-1KT	$558	1 °C to 4 °C	link
IPTG	Media	Isopropyl β-D-thiogalactoside (IPTG), Powder, ≥99% (TLC), ≤0.1% Dioxane	Sigma-Aldrich	I6758-1G	$89.90	−25 °C to −15 °C	link
BL21(DE3) Competent Cells	Biologic	BL21(DE3) Competent *E. coli*	NEB	C2527H	$252	−85 °C to −75 °C	link
RNase Inhibitor, Murine	Reagent	RNase Inhibitor, Murine	NEB	M0314S	$87.00	−25 °C to −15 °C	link
PURExpress Kit	Reagent	PURExpress® *In Vitro* Protein Synthesis Kit	NEB	E6800L	$2774.00	−85 °C to −75 °C	link

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Nucleus PURE DNA constructs	Biologic	Pooled PURE expression constructs (see Make 36-pot)	b.next	—	—	−25 °C to −15 °C	DNA/PURE/expression
pOpen-deGFP DNA template	Biologic	deGFP reporter template (see Reporter deGFP)	b.next	—	—	−25 °C to −15 °C	pOpen-deGFP.gbk
E. coli Ribosomes	Biologic	Nucleus 70S ribosomes (see Make Ribosomes)	b.next	—	—	−80 °C	Make Ribosomes
E. coli tRNAs	Biologic	Nucleus Total tRNA (see Make tRNAs)	b.next	—	—	−80 °C	Make tRNAs
96-well Polypropylene DeepWell Plates	Consumables	Nunc™ 96-Well Polypropylene DeepWell™ Sample Processing & Storage Plates with Shared-Wall Technology	Nunc	260251	$379.61	4 °C to 30 °C	link
Amicon Ultra 0.5 mL - 3 kDa	Consumables	Amicon® Ultra Centrifugal Filter, 3 kDa MWCO	Millipore Sigma	UFC5003	$63	4 °C to 30 °C	link
Amicon Ultra 15 mL - 3 kDa	Consumables	Amicon® Ultra Centrifugal Filter, 3 kDa MWCO	Millipore Sigma	UFC9003	$125	4 °C to 30 °C	link
Breathe-Easy sealing membrane	Consumables	Breathe-Easy® sealing membrane	Sigma-Aldrich	Z380059-1PAK	$96.50	4 °C to 30 °C	link

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Columns	Columns	Empty Disposable PD-10 Columns	Cytiva	17043501	$258.30	4 °C to 30 °C	link
Ni-His Resin	Resin	NEBExpress Ni Resin	New England Biolabs	S1428S	$358.00	1 °C to 4 °C	link
Rapid-Flow Sterile Single Use Vacuum Filter Units	Consumables	Nalgene™ Rapid-Flow™ Sterile Disposable Bottle Top Filters (PES, 0.22 µm)	Thermo Scientific	596-3320	$105.97	4 °C to 30 °C	link
SealPlate film	Consumables	SealPlate® film	Excel Scientific	Z369659-100EA	$72.20	4 °C to 30 °C	link