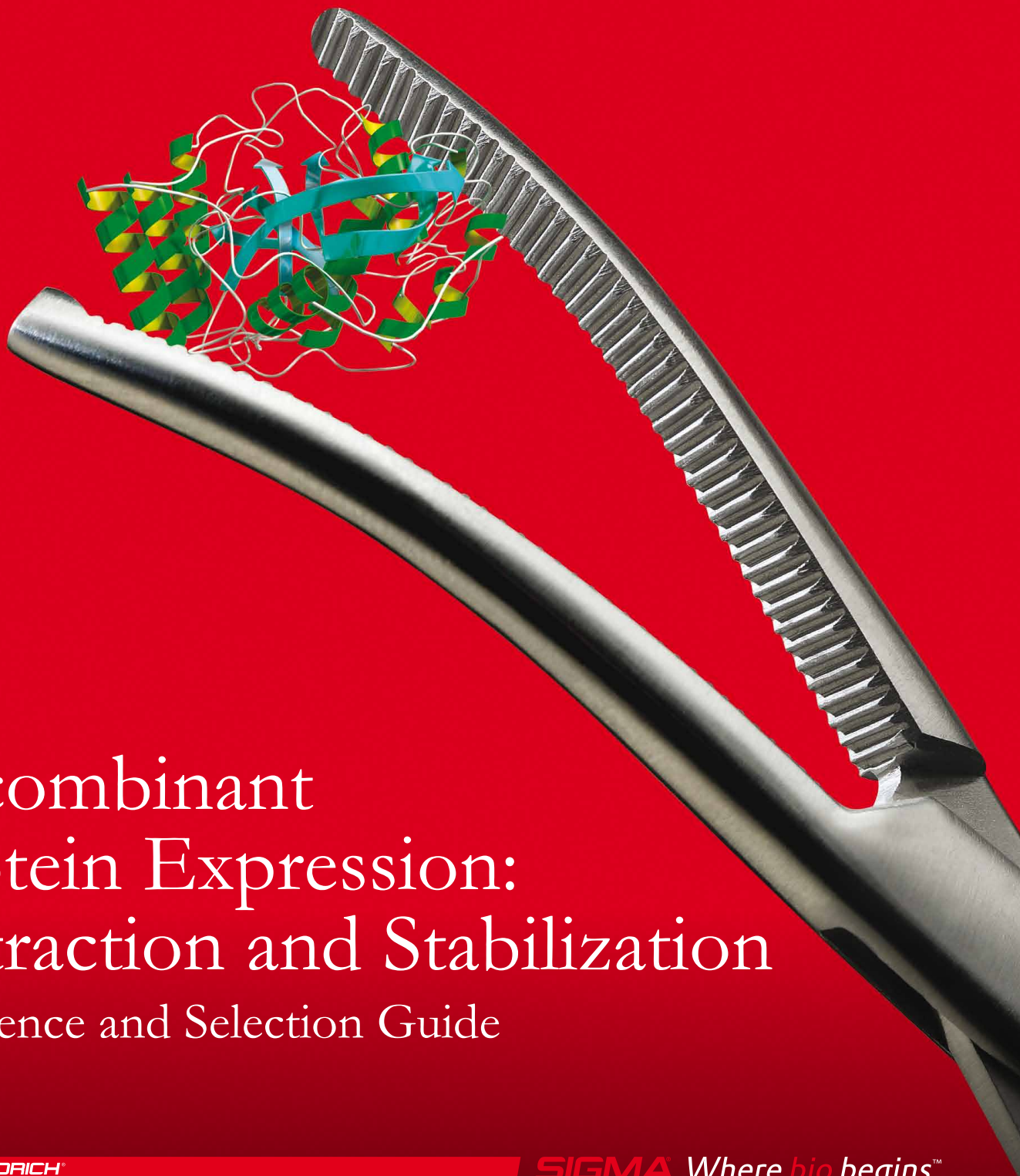


biomapping

- Efficiently extract protein
- Preserve protein function
- Prevent protein degradation



Recombinant Protein Expression: Extraction and Stabilization Reference and Selection Guide

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Life Science

Protease and Phosphatase Inhibitor Cocktails

Sample Type	General Use		Bacterial	Mammalian	Plant
Cat. No.	P2714	S8820	P8465	P8340	P9599
Specificity of inhibition	Serine, Cysteine, Aspartic and Metalloproteases	Serine, Cysteine, Aspartic and Metalloproteases	Serine, Cysteine, Aspartic, Metalloproteases and Aminopeptidases	Serine, Cysteine, Aspartic Proteases and Amidopeptidases	Serine, Cysteine, Aspartic, Metalloproteases and Aminopeptidases
Usage (amount of sample that 1 mL of cocktail will inhibit); typically enough for 100 mL of cell lysate, depending on cell type	1 mg of USP pancreatin; typically enough for 100 mL of cell lysate	1 mg of USP pancreatin (1x solution); one tablet generates 100 mL of protease inhibitor solution	20 mL of cell lysate from 4 g (wet weight) of <i>E. coli</i> cells	100 mL of cell lysate from 20 g (wet weight) of bovine liver or 10 mL of cell lysate from CHO cells at 10 ⁸ cells per mL	100 mL of cell lysate from 30 g (wet weight) of plant tissue
Cocktail components (and concentrations when available)	<ul style="list-style-type: none"> • AEBSF, 2 mM • Aprotinin, 0.3 μM • Bestatin, 130 μM • EDTA, 1 mM • E-64, 14 μM • Leupeptin, 1 μM 	<ul style="list-style-type: none"> • AEBSF, 2 mM • Aprotinin, 0.3 μM • Bestatin, 130 μM • EDTA, 1 mM • E-64, 14 μM • Leupeptin, 1 μM 	<ul style="list-style-type: none"> • AEBSF, 23 mM • Bestatin, 2 mM • EDTA, 100 mM • E-64, 0.3 mM • Pepstatin A, 0.3 mM 	<ul style="list-style-type: none"> • AEBSF, 104 mM • Aprotinin, 80 μM • Bestatin, 4 mM • E-64, 1.4 mM • Leupeptin, 2 mM • Pepstatin A, 1.5 mM 	<ul style="list-style-type: none"> • AEBSF • Bestatin • E-64 • Leupeptin • Pepstatin A • 1,10-Phenanthroline
Additional special/Specific applications (tested on but not limited to)	• Optimized and tested for general use	• Optimized and tested for general use	• Various <i>E. coli</i> strains	• Use at 1:100 for undiluted blood samples, liver tissue extracts and CHO cell lysates	• Tested on extracts from kidney bean, pea, wheat, tobacco and <i>Arabidopsis</i>
Cocktail format	Lyophilized powder that is water soluble	Tablet that is water soluble	Lyophilized powder with a vial of DMSO	Solution in DMSO	Solution in DMSO
Storage and stability (unopened)	• ≥ 4 years at -20 °C	• ≥ 4 years at 2-8 °C	• ≥ 4 years at -20 °C	<ul style="list-style-type: none"> • ≥ 4 years at -20 °C • 8 months at 2-8 °C • 2 months at RT 	<ul style="list-style-type: none"> • ≥ 4 years at -20 °C • 8 months at 2-8 °C • 2 months at RT
Package sizes	• 1 bottle prepares 100 mL of cocktail solution	<ul style="list-style-type: none"> • 2 tablets • 20 tablets 	<ul style="list-style-type: none"> • 5 mL • 25 mL 	<ul style="list-style-type: none"> • 1 mL • 5 mL 	<ul style="list-style-type: none"> • 1 mL • 5 mL

Available Individually

Inhibitors	AEBSF	Aprotinin, saline solution	Aprotinin, affinity purified	Bestatin hydrochloride	Cantharidin	Chymostatin	E-64	EDTA disodium salt dihydrate	EDTA, 0.5 M solution disodium salt	EGTA	Imidazole
Cat. No.	A8456	A6279	A4529	B8385	C7632	C7268	E3132	E5134	E7889	E8145	I0125
Application	Inhibits serine proteases, such as trypsin and chymotrypsin	Inhibits serine proteases, such as trypsin, chymotrypsin, plasmin, trypsinogen, urokinase and kallikrein. Also inhibits human leukocyte elastase, but not pancreatic elastase		Inhibits aminopeptidases, such as leucine aminopeptidase	Inhibits protein phosphatase 2A (PP-2A)	Inhibits serine and cysteine proteases	Inhibits cysteine proteases, such as calpain, papain and cathepsin B	Inhibits metalloproteases, chelates, permeabilizes Gram-negative bacteria		Inhibits metalloproteases, chelates	Inhibits alkaline phosphatases

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Yeast	Histidine-tagged Proteins		Tissue Culture Media	Phosphatase Inhibitors	
				Tyrosine/Alkaline	Serine/Threonine
P8215	P8849	S8830	P1860	P5726	P0044
Serine, Cysteine, Aspartic and Metalloproteases	Serine, Cysteine, Aspartic and Thermolysin-like Proteases and Aminopeptidases	Serine, Cysteine, Aspartic and Metalloproteases	Serine Cysteine, Aspartic Proteases and Aminopeptidases	Acid and Alkaline Phosphatases, as well as Tyrosine Protein Phosphatases	Serine, Threonine Phosphatases and various isozymes of Alkaline Phosphatase
100 mL of cell lysate from 20 g (wet weight) of <i>Saccharomyces cerevisiae</i> cells	100 mL of cell lysate from 20 g (wet weight) of <i>E. coli</i> cells or 10 g (wet weight) of baculo-virus infected cells	1 mg of USP pancreatin (1x solution); one tablet generates 100 mL of protease inhibitor solution	Dilution of $\geq 1:200$ in tissue culture media to prevent proteolytic degradation of secreted proteins	100,000 x y supernatant from human placenta, bovine liver, rabbit muscle, A431 or Jurkat cell extracts at a protein concentration of ~ 5 mg/ mL	
<ul style="list-style-type: none"> • AEBSF, 100 mM • E-64, 1.4 mM • Pepstatin A, 2.2 mM • 1,10-Phenanthroline, 500 mM 	<ul style="list-style-type: none"> • AEBSF • Bestatin • E-64 • Pepstatin A • Phosphoramidon 	<ul style="list-style-type: none"> • AEBSF • Bestatin • E-64 • Pepstatin A • Phosphoramidon • + Leupeptin 	<ul style="list-style-type: none"> • Aprotinin • Bestatin • E-64 • Leupeptin • Pepstatin A 	<ul style="list-style-type: none"> • Imidazole • Sodium Molybdate • Sodium Orthovanadate • Sodium Tartrate 	<ul style="list-style-type: none"> • Bromotetramisole • Canthardin • Microcystin LR
• <i>Saccharomyces cerevisiae</i> cells	• <i>E. coli</i> cells; baculovirus infected <i>Spodoptera frugiperda</i> pupal ovary cells	• Optimized and tested for use with HIS-Select media	• After 48 hours in medium, add fresh inhibitors in fresh medium	• Tested on various animal tissues (bovine liver, human placenta, rabbit muscle) and A431 and Jurkat cell lines	• Tested on various animal tissues (bovine liver, human placenta, rabbit muscle) and A431 and Jurkat cell lines
Solution in DMSO	Solution in DMSO	Tablet that is water soluble	Solution in DMSO	Solution in water	Solution in DMSO
<ul style="list-style-type: none"> • ≥ 4 years at -20°C • 8 months at $2-8^\circ\text{C}$ • 2 months at RT 	<ul style="list-style-type: none"> • ≥ 4 years at -20°C • 3 months at $2-8^\circ\text{C}$ • 2 weeks at RT 	<ul style="list-style-type: none"> • ≥ 4 years at -20°C 	<ul style="list-style-type: none"> • ≥ 4 years at -20°C • 8 months at $2-8^\circ\text{C}$ • 2 months at RT 	<ul style="list-style-type: none"> • ≥ 2 years at $2-8^\circ\text{C}$ 	<ul style="list-style-type: none"> • ≥ 4 years at $2-8^\circ\text{C}$
<ul style="list-style-type: none"> • 1 mL • 5 mL 	<ul style="list-style-type: none"> • 1 mL • 5 mL 	<ul style="list-style-type: none"> • 2 tablets • 20 tablets 	<ul style="list-style-type: none"> • 1 mL 	<ul style="list-style-type: none"> • 1 mL • 5 mL 	<ul style="list-style-type: none"> • 1 mL • 5 mL

Leupeptin hemisulfate	Leupeptin TFA salt	Leupeptin hydrochloride	Pepstatin A	Pepstatin A, 90% pure	1,10-Phenanthroline	Phosphoramidon	PMSF	Sodium molybdate	Sodium orthovanadate	Sodium tartrate dibasic
L2884	L2023	L9783	P4265	P5318	P9375	R7385	P7626	M1003	S6508	S4797
Inhibits both serine and cysteine proteases such as calpain, trypsin, papain and cathepsin B			Inhibits acid proteases, such as pepsin (human or porcine), rennin, cathepsin D, chymosin (bovine rennin) and protease B		Inhibits metalloproteases	Inhibits thermolysin and collagenase	Inhibits serine proteases	Inhibits acid and phosphoprotein phosphatases	Inhibits a number of ATPases, protein tyrosine phosphatases and other phosphate-transferring enzymes	Inhibits alkaline phosphatases

Recombinant Protein Expression: Extraction and Stabilization

Organism	Bacteria			
	Whole Cell Detergent Lysis			Whole Cell Detergent & Enzymatic Lysis
Product	CellLytic™ B	CellLytic B 2x	CellLytic B 10x	CellLytic Express
Cat. No.	B7435	B7310	C8740	C1990
Description	A ready-to-use solution containing 40 mM Tris-HCl, pH 8 and a proprietary, non-denaturing detergent formulation of zwitterionic detergents	A more concentrated (2x), ready-to-use solution containing 40 mM Tris-HCl, pH 8 and a proprietary, non-denaturing formulation detergent	A highly concentrated (10x) solution containing a proprietary, non-denaturing detergent formulation and no buffering components	A ready-to-use, all-in-one, non-denaturing proprietary powder formulation of detergent and enzymes optimized for one-step extraction of proteins from bacterial cells (in-culture cell lysis)
Sample type	<ul style="list-style-type: none"> Bacterial cell pellets (lysis and protein extraction) Isolation of inclusion bodies 	<ul style="list-style-type: none"> Bacterial cell pellets (concentrated at 2x for more difficult to lyse organisms) Isolation of inclusion bodies 	<ul style="list-style-type: none"> Bacterial cell pellets (concentrated at 10x in water; dilute for use into buffer of choice) Isolation of inclusion bodies 	<ul style="list-style-type: none"> Direct lysis of bacterial cell cultures (without centrifugation) Affinity purification of proteins without the need for special equipment
Strain/Cell line compatibility	<ul style="list-style-type: none"> Optimized for <i>E. coli</i>/strain BL21 DH5a™ JM109 Other similar cells 	<ul style="list-style-type: none"> Optimized for <i>E. coli</i>/strain BL21 DH5a JM109 Other similar cells 	<ul style="list-style-type: none"> Optimized for <i>E. coli</i>/strain BL21 DH5a JM109 Other similar cells 	<ul style="list-style-type: none"> Optimized for <i>E. coli</i>/strain BL21 DH5a JM109 Other similar cells
Usage	<p>Small scale: 0.4 mL of CellLytic B per 1.5 mL culture pellet</p> <p>Large scale: 10–20 mL per g of wet cell paste</p>	<p>Small scale: 0.2 mL of CellLytic B 2x per 1.5 mL of culture pellet</p> <p>Large scale: 5 mL per g of wet cell paste</p>	<p>Test 5, 10, and 20-fold dilutions into the desired buffer; add diluted solution at 10–20 mL per g of wet cell paste</p>	<p>Small scale: one 25 mL bottle per 25 mL of culture</p> <p>Large scale: one 500 mL bottle for 500 mL of culture</p> <p>For cultures <25 mL, add 0.05 g of powder per mL of culture</p>
Type of detergent/ Dialyzable?	Zwitterionic/Yes	Zwitterionic/Yes	Zwitterionic/Yes	Zwitterionic/Yes
Protein active?	Yes – Suitable for protein activity assays	Yes – Suitable for protein activity assays	Yes – Suitable for protein activity assays	N/A; typically resin-bound protein-activity dependent on isolation/elution methods
Compatible purification and detection products	<ul style="list-style-type: none"> Antibody/EZview™ Affinity Gels FLAG® HIS-Select®/IMAC GST Protease inhibitor cocktails Lysozyme solution (L3790) 	<ul style="list-style-type: none"> Antibody/EZview Affinity Gels FLAG HIS-Select/IMAC GST Protease inhibitor cocktails Lysozyme solution (L3790) 	<ul style="list-style-type: none"> Antibody/EZview Affinity Gels FLAG HIS-Select/IMAC GST Protease inhibitor cocktails Lysozyme solution (L3790) 	<ul style="list-style-type: none"> Antibody/EZview Affinity Gels FLAG HIS-Select/IMAC GST Protease inhibitor cocktails Lysozyme solution (L3790)
Quantitation and staining capabilities	<ul style="list-style-type: none"> Protein assay Protein staining 	<ul style="list-style-type: none"> Protein assay Protein staining 	<ul style="list-style-type: none"> Protein assay Protein staining 	<ul style="list-style-type: none"> Protein assay Protein staining
Applications	<ul style="list-style-type: none"> Affinity purification SDS-PAGE Western blotting Dot blotting Immunoprecipitation 	<ul style="list-style-type: none"> Affinity purification SDS-PAGE Western blotting Dot blotting Immunoprecipitation 	<ul style="list-style-type: none"> Affinity purification SDS-PAGE Western blotting Dot blotting Immunoprecipitation 	<ul style="list-style-type: none"> Affinity purification SDS-PAGE Western blotting Dot blotting Immunoprecipitation
Related products containing this reagent	• See CB0050 and CB0500 kits	• See B7435 and CB0500 kits	• See B7435 and CB0500 kits	• CellLytic Express Tablets (C5491)
Physical form	• Ready-to-use solution	• Concentrated solution (2x)	• Concentrated solution (10x)	• Easy-to-dissolve powder
Storage and stability	• 2 years at room temperature	• 2 years at room temperature	• 2 years at room temperature	• 2 years at –20 °C
Package sizes	• 50 mL, 500 mL (sufficient for processing 5 g and 50 g of wet cell paste, respectively)	• 50 mL, 250 mL (sufficient for processing up to 10 g and 50 g of wet cell paste, respectively)	• 10 mL, 50 mL, 100 mL (sufficient for processing ~10 g, 50 g, and 100 g of wet cell paste, respectively)	<ul style="list-style-type: none"> • 25 mL (1.26 g) • 10 x 25 mL • 6 x 500 mL (25.2 g)

Cellytic Express Tablets	Cellytic B Plus Kit	Inclusion Body Solubilization	Integrated Lysis & Affinity Purification – Whole Cells
C5491	CB0050 and CB0500	C5236	H9913
A ready-to-use, all-in-one, non-denaturing proprietary tablet formulation of detergent and enzymes optimized for one-step extraction of proteins from bacterial cells (in-culture cell lysis)	Kits containing Cellytic B Cell Lysis Reagent (B7435), lysozyme, Benzonase® and a Protease Inhibitor Cocktail to extract soluble proteins and remove cell debris from inclusion bodies	A ready-to-use solution designed to solubilize inclusion bodies formed in bacteria over-expressing recombinant proteins	A single-use integrated lysis and affinity purification column designed for one-step purification of histidine-tagged proteins directly from a 5 mL bacterial culture
<ul style="list-style-type: none"> • Direct lysis of bacterial cell cultures (without centrifugation) • Affinity purification of proteins without the need for special equipment • Optimized for <i>E. coli</i> strain BL21 • DH5α • JM109 • Other similar cells 	Both gram-negative and difficult to lyse gram-positive bacteria	Bacterial inclusion bodies	Bacterial culture (direct lysis, no centrifugation necessary)
<ul style="list-style-type: none"> • Optimized for <i>E. coli</i> strain BL21 • DH5α • JM109 • Other similar cells 	<ul style="list-style-type: none"> • Optimized for <i>E. coli</i> strain BL21 • Other similar bacteria 	<ul style="list-style-type: none"> • Various <i>E. coli</i> strains 	<ul style="list-style-type: none"> • Optimized for <i>E. coli</i> strain BL21 • Other similar bacteria grown in Terrific Broth
Use 1 tablet for 1 mL of culture. High OD cultures, additional tablets can be used	10 mL per g of wet cell paste (~250 mL culture); dilute 1:10 for inclusion body isolation	8 mL per g of purified inclusion body pellet	5 mL of an overnight bacterial culture per column
Zwitterionic/Yes	Zwitterionic/Yes	N/A (strong denaturant in mild neutral buffer)	Zwitterionic/Yes
N/A; resin-bound protein – activity dependent on isolation/elution methods	Yes – Suitable for protein activity assays	N/A; need to renature, therefore, dependent on the nature of the specific protein	Activity dependent on method used for isolation and elution of resin-bound protein
<ul style="list-style-type: none"> • Antibody/EZview Affinity Gels • FLAG • HIS-Select/IMAC • GST • Protease inhibitor cocktails • Lysozyme solution (L3790) 	<ul style="list-style-type: none"> • Antibody/EZview Affinity Gels • FLAG • HIS-Select/IMAC • GST • Protease inhibitor cocktails • Lysozyme solution (L3790) 	<ul style="list-style-type: none"> • Protein assay – depending on the nature of the recombinant protein after dialysis and refolding 	<ul style="list-style-type: none"> • HIS-Select/IMAC
<ul style="list-style-type: none"> • Protein assay • Protein staining • Affinity purification • SDS-PAGE • Western blotting • Dot blotting • Immunoprecipitation 	<ul style="list-style-type: none"> • Protein assay • Protein staining • Affinity purification • SDS-PAGE • Western blotting • Dot blotting • Immunoprecipitation 	<ul style="list-style-type: none"> • Protein assay – only after renaturation/dialysis • Protein staining – after dialysis • SDS-PAGE (following dialysis of the denaturant) • Protein refolding studies 	<ul style="list-style-type: none"> • Protein assay – depending on elution method • Protein staining • Western blotting • Dot blotting
<ul style="list-style-type: none"> • Cellytic Express powder (C1990) • HIS-Select iLAP 5 mL column (H9913) 	N/A	N/A	N/A; see Cellytic Express Tablet, C5491
<ul style="list-style-type: none"> • Easy-to-dissolve tablets 	<ul style="list-style-type: none"> • Solutions ready to mix 	<ul style="list-style-type: none"> • Ready-to-use solution 	<ul style="list-style-type: none"> • 5 mL chromatography column containing 5 Cellytic Express tablets and 1 HIS-Select resin pellet
<ul style="list-style-type: none"> • 2 years at –20 °C 	<ul style="list-style-type: none"> • 1 year, Cellytic B at room temperature; the rest of the kit at –20 °C 	<ul style="list-style-type: none"> • ≥ 1 year at room temperature 	<ul style="list-style-type: none"> • 2 years at 2–8 °C
<ul style="list-style-type: none"> • 25 ea • 100 ea 	<ul style="list-style-type: none"> • 1 kit: <ul style="list-style-type: none"> – 50 mL (CB0050) or – 500 mL (CB0500) Cellytic B for processing 5 g or 50 g of cell paste, respectively 	<ul style="list-style-type: none"> • 25 mL • 100 mL 	<ul style="list-style-type: none"> • 1 each • 25 each

Recombinant Protein Expression: Extraction and Stabilization – continued

Organism	Mammalian				
	Whole Cells	Tissues	Membrane	Nuclear	Whole Cells
Product	CellLytic M	CellLytic MT	CellLytic MEM	CellLytic NuCLEAR™ Extraction Kit	RIPA buffer
Cat. No.	C2978	C3228	CE0050	NXTRACT	R0278
Description	A ready-to-use solution containing a mild detergent in a bicine buffer designed for efficient whole-cell protein extraction from cultured mammalian cells	A ready-to-use solution consisting of a dialyzable mild detergent, bicine, and 150 mM NaCl for efficient extraction of tissue proteins for analysis	A kit containing Lysis and Separation Buffer, Wash Buffer, 4 M NaCl Solution, and Protease Inhibitor Cocktail for isolation of hydrophobic and raft-associated proteins	A complete system for preparing nuclear and cytoplasmic protein extracts from mammalian cultured cells or tissues, allowing extraction of functional nuclear proteins	A ready-to-use solution for general cell lysis, which contains 50 mM Tris-HCl, pH 8, 150 mM NaCl, 1% IGEPAL® CA-630, 0.5% sodium deoxycholate, and 0.1% SDS
Sample type	Both suspension and adherent cells (no cell scraping necessary; efficient and rapid cell lysis and protein solubilization)	<ul style="list-style-type: none"> • Mammalian tissues • Mammalian cell lines (for efficient extraction of proteins that require higher salt in the lysis buffer) 	Cultured mammalian cells (isolation based on phase separation, not high-speed centrifugation)	Mammalian cells and fresh or frozen tissues (reagents allow for flexible, application-specific methods of extracting functional nuclear proteins)	Both adherent and suspension cultured mammalian cells (rapid, efficient cell lysis and solubilization of proteins)
Strain/Cell line compatibility	<ul style="list-style-type: none"> • HeLa • HL-60 • PC-12 • CHO • Bovine Aorta Endothelial Cells (BAEC) • Jurkat • COS • A431 	<ul style="list-style-type: none"> • Rat tissue (brain, liver, muscle, kidney, heart, and spleen) • Mouse tissue (brain, kidney, and muscle) 	<ul style="list-style-type: none"> • HeLa • HEK-293 • NIH3T3 • COS • CHO 	<ul style="list-style-type: none"> • HeLa • Jurkat • Rat liver • Bovine Aorta Endothelial Cells (BAEC) • Mouse brain and lung • Rabbit muscle • CHO • PC-12 • COS 	<ul style="list-style-type: none"> • Mammalian cell lines
Usage	125 µl for 10 ⁶ -10 ⁷ cells; 500-1000 µl for a 100 mm plate; 200-400 µl for a 35 mm plate	20 mL per g of tissue (1:20 ratio)	600 µl of lysis and separation buffer for every 10 ⁶ -10 ⁷ cells	500 µl of 1x lysis buffer for every 100 µl of packed cell volume (5x volume)	1 mL of RIPA Buffer is sufficient to lyse cells from one 100 mm culture dish (0.5 to 5 x 10 ⁷ cells)
Type of detergent/Dialyzable?	Zwitterionic/Yes	Zwitterionic/Yes	Non-ionic/No	Non-ionic/No – only partially	Non-ionic/No – only partially Anionic/Yes
Protein active?	Yes – Suitable for protein activity assays	Yes – Suitable for protein activity assays	Yes – Suitable for protein activity assays	Yes – Suitable for protein activity assays	N/A
Compatible purification and detection products	<ul style="list-style-type: none"> • Antibody/EZview Affinity Gels • FLAG • HIS-Select/IMAC • GST • Protease and phosphatase inhibitor cocktails • Lysozyme solution (L3790) 	<ul style="list-style-type: none"> • Antibody/EZview Affinity Gels • FLAG • HIS-Select/IMAC • GST • Protease and phosphatase inhibitor cocktails • Lysozyme solution (L3790) 	<ul style="list-style-type: none"> • Antibody/EZview Affinity Gels • FLAG • HIS-Select/IMAC • GST • Protease and phosphatase inhibitor cocktails 	<ul style="list-style-type: none"> • Antibody/EZview Affinity Gels • FLAG • HIS-Select/IMAC • GST • Protease and phosphatase inhibitor cocktails 	<ul style="list-style-type: none"> • Antibody/EZview Affinity Gels • FLAG • HIS-Select/IMAC • GST • Protease and phosphatase inhibitor cocktails
Quantitation and staining capabilities	<ul style="list-style-type: none"> • Protein assay • Protein staining 	<ul style="list-style-type: none"> • Protein assay • Protein staining 	<ul style="list-style-type: none"> • Protein assay • Protein staining 	<ul style="list-style-type: none"> • Protein assay • Protein staining 	<ul style="list-style-type: none"> • Protein assay – after sample is diluted • Protein staining
Applications	<ul style="list-style-type: none"> • Reporter gene assays • Kinase assays • Phosphatase assays • Immunoassays • DNA-protein interaction assays (gel-shift assays) 	<ul style="list-style-type: none"> • Reporter gene assays • Kinase assays • Phosphatase assays • Immunoassays • DNA-protein interaction assays (gel-shift assays) 	<ul style="list-style-type: none"> • SDS-PAGE • Western blotting • Dot blotting • Immunoprecipitation 	<ul style="list-style-type: none"> • Electrophoresis Mobility Shift Assay (EMSA) • DNase I footprinting analysis • Transcription assays • Further purification 	<ul style="list-style-type: none"> • Affinity purification
Related products containing this reagent	CELLMM2, IP0020, IP0010, HMP1	N/A	N/A	N/A	N/A
Physical form	• Ready-to-use solution	• Ready-to-use solution	• Solutions ready to mix	• Solutions ready to mix	• Ready-to-use solution
Storage and stability	• 2 years at room temperature	• 2 years at room temperature	• 2 years at –20 °C; after opening the kit, store the protease inhibitor cocktail at –20 °C and the rest at 2-8 °C	• 3 years at –20 °C; see bulletin for storage of individual components once opened	• ≥ 2 years at 2–8 °C
Package sizes	<ul style="list-style-type: none"> • 50 mL • 250 mL 	<ul style="list-style-type: none"> • 50 mL • 500 mL 	<ul style="list-style-type: none"> • 1 kit: 50 mL of lysis and separation buffer, sufficient for 80 samples 	<ul style="list-style-type: none"> • 1 kit: 100 extractions of 100 µl of packed cells (10⁶-10⁷ cells), or 10 extractions of 1 mL of packed cells (10⁸-10¹⁰ cells) 	<ul style="list-style-type: none"> • 50 mL • 500 mL

	Plant		Yeast	
	Whole Cells & Tissues	Nuclear	Detergent	Detergent & Enzymatic Lysis
Mammalian Cell Lysis Kit	CellLytic P	CellLytic PN Kit	CellLytic Y	CellLytic Y Plus Kit
MCL1	C2360	CELLYTPN1	C4482	CYP1
A kit containing all reagents required for the solubilization of mammalian cells and tissue for subsequent protein analysis. Contains: 5x buffer (Tris-EDTA), 5x NaCl, 5x SDS, 5x deoxycholic acid, 5x Igepal CA-630, and protease inhibitor cocktail	A ready-to-use non-ionic detergent formulation for convenient and efficient plant cell lysis and protein solubilization	A kit containing complete reagents for rapid isolation of nuclei and extraction of functional nuclear proteins from plant leaves	A phosphate-free and non-denaturing reagent for effective yeast cell lysis and protein solubilization	A kit for highly efficient protein extraction from yeast cells, which contains Reaction Buffer, DTT, Lyticase, Extraction Buffer, Triton® X-100, and Protease Inhibitor cocktail
Mammalian cell lines (same application as RIPA buffer (R0278))	Fresh or frozen plant leaves (extraction and solubilization of protein from less than one gram to hundreds of grams)	Plant leaves (isolation of nuclei and extraction of nuclear proteins from a few grams to hundreds of grams)	Fast and efficient lysis and solubilization of proteins from yeast cells	This kit provides a convenient and highly efficient method of spheroplast formation and protein extraction from yeast cells
<ul style="list-style-type: none"> • HeLa • COS • PC-12 • Bovine Aorta Endothelial Cells (BAEC) • CHO • Jurkat 	<ul style="list-style-type: none"> • Tobacco • Tomato • Spinach • Arabidopsis 	<ul style="list-style-type: none"> • Tobacco • Tomato • Spinach • Arabidopsis 	<ul style="list-style-type: none"> • Various strains of <i>Saccharomyces cerevisiae</i> [Y187, Y190, W303(a), S288C, SP1, Σ1278b, BJ2168, cdc25] • <i>Schizosaccharomyces pombe</i> 	<ul style="list-style-type: none"> • <i>Saccharomyces cerevisiae</i> • <i>Pichia pastoris</i> • <i>Schizosaccharomyces pombe</i>
1 mL per sample For adherent or suspension cells, use 10 ⁶ -10 ⁷ cells/mL; for tissue, use 5-20 mg of tissue/mL	1 mL of reagent is sufficient for extraction of 0.5-1 g of plant leaves	3 mL of 1x nuclei isolation buffer per gram of leaf tissue (typically use 60 mL per isolation for 20 g leaf tissue)	2.5-5 mL per g of yeast cells	300 µl of reaction buffer and 500 µl of extraction buffer per 2 x 10 ⁹ cells
Non-ionic/No – only partially Anionic/Yes	Non-ionic/No – only partially	Non-ionic/No – only partially	Non-ionic/No – only partially	Non-ionic/No – only partially
N/A	Yes – Suitable for protein activity assays	N/A; presence of DTT in protein extraction buffer may interfere with protein activity	Yes – Suitable for protein activity assays	Yes – Suitable for protein activity assays
<ul style="list-style-type: none"> • Antibody/EZview Affinity Gels • FLAG • HIS-Select/IMAC • GST • Protease inhibitor cocktails 	<ul style="list-style-type: none"> • Antibody/EZview Affinity Gels • FLAG • HIS-Select/IMAC • GST • Protease and phosphatase inhibitor cocktails for plant tissue 	<ul style="list-style-type: none"> • Antibody/EZview Affinity Gels – must be done in absence of DTT • FLAG (no DTT) • HIS-Select/IMAC • GST • Protease and phosphatase inhibitor cocktails for plant tissue 	<ul style="list-style-type: none"> • Antibody/EZview Affinity Gels – must be done in absence of DTT • FLAG (no DTT) • HIS-Select/IMAC • GST • Protease inhibitor cocktails 	<ul style="list-style-type: none"> • Antibody/EZview Affinity Gels • FLAG • HIS-Select/IMAC • GST • Protease inhibitor cocktails
<ul style="list-style-type: none"> • Protein assay – after sample is diluted • Protein staining • Western blotting • Dot blotting • Immunoprecipitation • Affinity purification 	<ul style="list-style-type: none"> • Protein assay • Protein staining • Western blotting • DNA-protein interaction assays (Gel-shift) • Enzymatic assays (e.g., kinase assays and phosphatase assays) 	<ul style="list-style-type: none"> • Protein assay • Protein staining • Western blotting • DNase I footprinting • Gel-shift assays • Source of chromatin, genomic DNA and RNA 	<ul style="list-style-type: none"> • Protein assay • Protein staining • Reporter gene assays • Western blotting • Immunoprecipitation • Affinity purification • Gel-shift assays 	<ul style="list-style-type: none"> • Protein assay • Protein staining • Reporter gene assays • Western blotting • Immunoprecipitation • Affinity purification • Gel-shift assays
N/A	N/A	N/A	HIS-Select Y Purification Kit (HYP1)	N/A
<ul style="list-style-type: none"> • Concentrated solutions ready to mix • 2 years at –20 °C 	<ul style="list-style-type: none"> • Ready-to-use solution • 2 years at room temperature 	<ul style="list-style-type: none"> • Solutions ready to mix • 2 years at 2–8 °C; Filter Mesh 100 is stored at room temperature 	<ul style="list-style-type: none"> • Ready-to-use solution • 2 years at room temperature 	<ul style="list-style-type: none"> • Solutions ready to mix • 2 years at –20 °C; see bulletin for storage of individual components once opened
<ul style="list-style-type: none"> • 1 kit: extraction of 250 mL of total cell suspension, or extraction of cells from 250 plates (100 mm diameter) 	<ul style="list-style-type: none"> • 50 mL • 250 mL 	<ul style="list-style-type: none"> • 1 kit: 30 extractions from 20 g of fresh or frozen plant leaves 	<ul style="list-style-type: none"> • 50 mL • 500 mL 	<ul style="list-style-type: none"> • 1 kit: spheroplast formation and protein extraction from 10–40 g of yeast cell paste

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