

Protein Extraction & Purification Tools

Sample Preparation:

Buffers/Detergents/Antibiotics
Protease/Phosphatase Inhibitors/Cocktails
DiaEasy™ Dialyzer Tube Sets

Protein Purification:

Protein Beads/Columns/Buffers
Protein A/G/L Affinity Conjugates
Ni QR Agarose Beads/Buffer Kit
Ni-IDA Spin Column/Purification Kit

Protein Analysis:

Protein Quantification Kits
Protein Detection Tools

Order Instructions and Warranty Information

PLEASE PROVIDE THE FOLLOWING INFORMATION WHEN ORDERING:

- 1) Shipping and billing addresses
- 2) Purchase order number
- 3) Your name and telephone number
- 4) Product name, catalog number, product size, and quantity

ORDER METHOD: Phone: 1-800-891-9699 (Toll-free in US); 408-493-1800
Email: orders@biovision.com
Internet: www.biovision.com
Mail to: BioVision, Inc., 155 South Milpitas Blvd., Milpitas, CA 95035

SHIPPING:

Orders received by 12 PM (PST) Monday-Thursday are routinely shipped the same day for delivery the following business day. Orders received after 12 PM Thursday are shipped the following Monday. International orders are shipped on Mondays and Fridays.

CREDIT CARDS:

For your convenience, BioVision accepts Visa, MasterCard and American Express. Credit card approval must be obtained prior to shipment.

PRICES:

For pricing please log on to www.biovision.com or call 1-800-891-9699. Prices may be subject to change without prior notice.

TERMS:

Net 30 days in U.S. dollars after credit approval.

RESTOCKING FEE:

BioVision will charge a 20% restocking fee for any non-defective items returned for exchange due to order errors not caused by BioVision. BioVision will only accept returned item(s) that have been properly stored and still in their original, unopened packaging. Buyer must obtain BioVision's authorization prior to returning any product, and all return requests must be made within 30 days from the date the item was delivered. All shipping costs to be paid by the buyer.

WARRANTY:

BioVision's products are guaranteed to meet product specifications in effect at the time of shipment. Notice of nonconforming products must be made to BioVision within 30 days of receipt of the product. This product warranty limits BioVision's liability to the replacement of the product only. In no event shall BioVision be liable for any kind of loss or damage resulting from the use of BioVision's products.

Note: If the above terms are not acceptable to you, promptly return any products in the package in which they were received. Failure to promptly return the product or any use of the product constitutes acceptance of the above terms.

SAFE USE OF PRODUCTS:

BioVision recommends that the buyer and other persons using the products follow Good Laboratory Practice guidelines. BioVision disclaims any and all responsibility for any injury or damage which may be caused by the failure of the buyer or any other persons to follow said guidelines. It's the user's responsibility to determine for himself or herself the suitability of any materials and/or procedure for a specific purpose and to adopt such safety precautions as may be necessary.

RESEARCH USE ONLY:

All products described in this catalog and on our web site are for research purposes only, not to be used for diagnostic or therapeutic purposes. They must not be used with Human subjects.

ONLINE PURCHASE SECURITY:

BioVision, Inc. (www.biovision.com) guarantees that every transaction you make in our secure online store is 100% safe and all of your information is kept confidential. All orders are processed on a secure server. All sensitive information is sent through our protected servers.

When our registration/order form asks you to enter sensitive information, such as credit card number and/or billing address, that information is encrypted and protected with Secure Socket Layer (SSL) encryption software. While on a secure page, such as our order form, most browsers will display a lock or key icon on the status bar at the bottom indicating that the page is secure. Also, in the address window "http" changes to "https" on secure pages.

We maintain all of our servers behind a firewall. Our firewall helps protect the information stored on servers from unauthorized computers.

We have partnered with VeriSign, the leaders in online security and protection to provide you with further assurance that your information is safe with us as verified by this third party service. You can click the VeriSign Seal on <http://www.biovision.com/> to verify our identity and verify our SSL (Secure Socket Layer) certificate is valid.

INTERNATIONAL ORDERING INFORMATION:

To order BioVision's products outside the United States and Canada, please contact your local distributor (please visit our website for our distributor listing). If your country does not have a distributor, please contact BioVision directly.

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Introduction

- **SAMPLE PREPARATION**

- Extraction Tools
- Sample Integrity
- Fractionation Kits
- Buffer Exchange

- **PROTEIN PURIFICATION**

- Protein Beads/Columns/Buffers

- **PROTEIN ANALYSIS**

- Protein Quantification Tools
- Protein Detection



Innovative, High Quality Research Tools for the Isolation, Purification and Analysis of Proteins

The age-old question, which came first: nucleic acids or proteins, is still up for discussion. There is no doubt that the importance of these two large groups of biological polymers for creating and sustaining life is very unique.

While nucleic acids are to a large extent the carriers of life code, the machinery of life has mostly evolved to use proteins.

Proteins are composed mainly of 20 amino acids. With the added complexity of the post-translational modifications such as phosphorylation, glycosylation, ubiquitination and others, one can predict the extreme variability of physico-chemical properties of these biopolymers. Additional complexity stems from the ability of proteins to form secondary, tertiary and quaternary structures as well as transient or stable complexes between different proteins.

It is still unclear how large is the number of proteins inside a living cell, organ and organism; however, based on the number of ORF (Open Reading Frame) in our genomes it is at least 20,000 and most likely over 60,000 different types of molecules.

The elucidation of life, life cycle and disease states is impossible nowadays without detailed knowledge of the proteins involved in them. An intimate knowledge of all of these and other processes in the living matter is of utmost importance.

BioVision's mission is to provide innovative, high quality research tools that further the knowledge of the Life Science Research Community. As such, we develop tools for the isolation, purification and analyses of proteins that enable scientists in more than 70 countries in the common quest for knowledge that solve both fundamental questions as well as real life problems, and ultimately diminishes suffering, extends or improves quality of life.

Reproducible and Efficient Sample Preparation

Reproducible and efficient sample preparation is the core of any successful experiment. It is extremely important to obtain high yield and high quality sample if one is to study the biological activity of the protein(s) of interest. Factors such as complete extraction of the target while preserving its integrity, coupled with reduction of sample complexity for downstream purification, have to be balanced when choosing a purification strategy. Ability to efficiently switch the liquid phase in which the target is extracted, can have a strong impact on the final outcome of the purification process as well.

BioVision's product lines, addressing the needs of scientists in the field of sample preparation, are exhaustive and cover all the aspects discussed above.

Comprehensive Tools

We offer a comprehensive set of extraction buffers for isolation of proteins from various hosts as well as broad versatility of detergents that enable researchers to prepare the buffer of their choice.

Our extraction buffers outperform those of other market leaders in terms of extraction efficiency and ease of use.

Sample Integrity, Fractionation and Buffer Exchange

Our fractionation kits enable scientists to enrich their target and decrease sample complexity, improving downstream purification.

Our inhibitor cocktails protect the target integrity to the highest possible level while their versatility in many cases allows direct application of the samples to the purification columns of choice without the need of buffer exchange.

And when a buffer exchange is inevitable, our products provide efficient, quick and high yields.



DiaEasy™ Dialyzer Tube Sets

Sample Preparation

• EXTRACTION TOOLS

Buffers
Antibiotics
Detergents

• SAMPLE INTEGRITY

Phosphatase Inhibitors
Protease Inhibitors
Universal Protease and Phosphatase Inhibitor Cocktails

• FRACTIONATION KITS

Yeast
Mammalian

• BUFFER EXCHANGE

DiaEasy™ Dialyzer Tube Sets
Spin Desalting Columns
Ammonium Sulphate Saturated Solution

Buffers

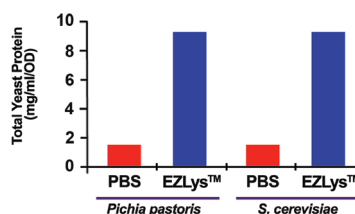
Product Name	Catalog No.	Size
Acetic Acid (50 mM)	2112-2, -20	2 ml, 20 ml
1X Annexin V Binding Buffer	1035-100	100 ml
10X Annexin V Binding Buffer	1006-100	100 ml
Antibody Dilution Buffer	1270-20	20 ml
EZLys™ Bacterial Protein Extraction Reagent	8001-100, -500	100 ml, 500 ml
BSA (10% in H ₂ O)	2119-10	10 ml
Cell Lysis Buffer	1067-100, -400	100 ml, 400 ml
Dilution Buffer	1066-100, -500	100 ml, 500 ml
DTT	1201-1	1 ml (1 M)
EDTA Solution (pH 8.0)	2103-100	100 ml
Imidazole, MegaPure™	1802-25G, -100G	25 g, 100 g
Magnesium Chloride (MgCl ₂)	2105-100	100 ml (1 M)
PBS Tablets	2129-10, -100	10 Tablets, 100 tablets
PBS-Tween® Tablets	2130-10, -100	10 Tablets, 100 tablets
Phosphate Buffered Saline (PBS)	2113-500	500 ml (10X)
Potassium Chloride Solution (KCl)	2115-100	100 ml (1 M)
2X Reaction Buffer	1068-20, -80	20 ml, 80 ml
RIPA Buffer	2114-100, -500	100 ml, 500 ml
SDS Solution (10% in H ₂ O)	2102-100	100 ml
3X SDS-PAGE Loading Buffer	2108-10	5 x 2 ml
Sodium Acetate (NaAc 3 M pH 5.2)	2118-100	100 ml
Sodium Chloride Solution (NaCl)	2101-100	100 ml (5M)
TCEP.HCl	1202-1ML, -10G	1 ml (1 M), 10 g
EZLys™ Tissue Protein Extraction Reagent	8002-100, -500	100 ml, 500 ml
Tris-HCl (pH 6.8)	2106-100	100 ml (1 M)
Tris-HCl (pH 8.8)	2107-100	100 ml (1 M)
Tris-HCl (pH 8.8)	1105-100	100 ml (1.5 M)
EZLys™ Yeast Protein Extraction Reagent	8003-100, -500	100 ml, 500 ml

EZLys™ Extraction Reagents (Cat. #s 8001, 8002, 8003, 8004)

“Customized Reagents for Best Results.”

The choice of protein extraction reagents makes the difference between isolating high quality proteins for functional studies to degraded proteins leading to failed experiments. Protein processing methods often involve harsh mechanical, chemical, or enzymatic treatments affecting target protein's integrity and activity. **BioVision's EZLys™ line of products** are optimized for efficient protein extraction for multiple downstream functional studies and are customized for different cell types including yeast and mammalian cells.

EZLys™ Yeast Protein Extraction Reagent



Total yeast protein extracted with PBS or BioVision's **EZLys™ Yeast Protein Extraction Reagent**. Protein quantitation by Bradford assay Results normalized for yeast culture OD (600 nm).



EXTRACTION TOOLS

Antibiotics

Product Name	Catalog No.	Size
A23187	1501-10	10 mg
Anisomycin	1549-10	10 mg
Ascomycin	1573-2	2 mg
Brefeldin A	1560-5, -50	5 mg, 50 mg
Cycloheximide	1041-1G, -5G	1 g, 5 g
Cycloheximide (100 mM)	1041-1	1 ml
Daunorubicin.HCl	1524-10, -50, -100	10 mg, 50 mg, 100 mg
Doxorubicin.HCl	1527-5	5 mg
G418 Sulfate	1557-1G, -5G, -25G	1 g, 5 g, 25 g
Geldanamycin	1564-1, -5	1 mg, 5 mg
Ionomycin (Calcium Salt)	1566-1, -5	1 mg, 5 mg
Ionomycin (Free Acid)	1565-1, -5	1 mg, 5 mg
Puromycin Dihydrochloride	1860-25, 100, 250, 500, 1000	25 mg, 100 mg, 250 mg, 500 mg, 1 g
EZSolution™ Puromycin Dihydrochloride	1861-100	100 mg
Thapsigargin	1558-1	1 mg

Detergents

Product Name	Catalog No.	Size
ASB-14	1738-5G, -25G	5 g, 25 g
ASB-16	2136-1G, -5G	1 g, 5 g
CHAPS, High Purity	1545-10G, -50G, -100G, -500G, -1Kg	10 g, 50 g, 100 g, 500 g, 1 kg
Digitonin, Water-Soluble	2081-100, -250, -1000	100 mg, 250 mg, 1 g
EZSolution™ Digitonin	2082-1	1 ml
Dodecyl-β-D-maltopyranoside	2036-1, -5, -25, -50	1 g, 5 g, 25 g, 50 g
Lithocholic Acid	2187-1G, 5G	1 g, 5 g
EZLys™ Lysozyme, Human	8005-1G, -5G	1 g, 5 g
NP-40 (10% in H ₂ O)	2111-100	100 ml
NP-40 Substitute, MegaPure™ Detergent, 10% Solution	2127-50, -100, -500	50 ml, 100 ml, 500 ml
n-Octyl-β-D-glucopyranoside	1646-5G, -25G, -50G	5 g, 25 g, 50 g
SDS Solution (10% in H ₂ O)	2102-100	100 ml
Sulfobetaine 3-16	1777-5G, -25G	5 g, 25 g
Triton® X-100, MegaPure™ Detergent, 10% Solution	2124-50, -100, -500	50 ml, 100 ml, 500 ml
Triton® X-100 Solution (10% in H ₂ O)	2104-100	100 ml
Triton® X-114, MegaPure™ Detergent, 10% Solution	2137-50, -100, -500	50 ml, 100 ml, 500 ml
Tween® 20, MegaPure™ Detergent, 10% Solution	2125-50, -100, -500	50 ml, 100 ml, 500 ml
Tween® 20 Solution (10% in H ₂ O)	2109-100	100 ml
Tween® 80, MegaPure™ Detergent, 10% Solution	2126-50, -100, -500	50 ml, 100 ml, 500 ml

Phosphatase Inhibitors

Product Name	Catalog No.	Size
bpV(phen)	1793-5	5 mg
bpV(pic)	1794-5	5 mg
Calyculin A	1562-025	25 µg
Cyclosporine A	1522-100, -1G	100 mg, 1 g
FK-506	1563-1, -10	1 mg, 10 mg
IQ-1	1663-1	1 mg
Nodularin	2094-50	50 µg
Okadaic Acid	1543-025, 100	25 µg, 100 µg
Okadaic Acid, Ammonium Salt	1766-025, -100	25 µg, 100 µg
Okadaic Acid, Potassium Salt	1765-025, -100	25 µg, 100 µg
Okadaic Acid, Sodium Salt	1764-025, -100	25 µg, 100 µg

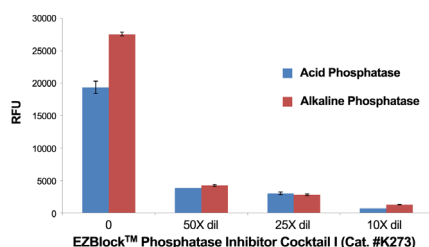
Phosphatase Inhibitors Cocktails

In order to determine the accurate phosphorylation status of a protein, it is important to inhibit phosphatase activity during the extraction of phosphoproteins from tissue and cell sample lysates. BioVision offers four different **EZBlock™ Phosphatase Inhibitor Cocktails** which provide protection against various types of phosphatases during protein extraction and purification.

Product Name	Catalog No.	Size
EZBlock™ Phosphatase Inhibitor Cocktail I (50X)	K273-1, -1EA	1 ml, 1 set (5 x 1 ml)
EZBlock™ Phosphatase Inhibitor Cocktail II	K275-1, -1EA	1 ml, 1 set (5 x 1 ml)
EZBlock™ Phosphatase Inhibitor Cocktail III	K276-1, -1EA	1 ml, 1 set (5 x 1 ml)
EZBlock™ Phosphatase Inhibitor Cocktail IV	K282-1, -1EA	1 ml, 1 set (5 x 1 ml)

Product	Inhibitors	Target
EZBlock™ Phosphatase Inhibitor Cocktail I	Sodium Fluoride, Sodium orthovanadate, Sodium pyrophosphate decahydrate, and β-Glycerophosphate.	Acid/Alkaline phosphatases, Ser/Thr phosphatases, Protein Tyrosine Phosphatases (PTPs).
EZBlock™ Phosphatase Inhibitor Cocktail II	Imidazole, Sodium Fluoride, Sodium orthovanadate, and Sodium tartrate.	Acid phosphatases, Alkaline phosphatases, Ser/Thr phosphatases, and PTPs.
EZBlock™ Phosphatase Inhibitor Cocktail III	p-Bromotetramisole oxalate, Cantharidin, Calyculin A.	Acid phosphatases and Ser/Thr phosphatases (PP1 and PP2A).
EZBlock™ Phosphatase Inhibitor Cocktail IV	Imidazole, β-Glycerophosphate, Sodium Fluoride, Sodium molybdate, Sodium orthovanadate, Sodium tartrate.	Acid/Alkaline phosphatases, Ser/Thr phosphatases, and PTPs.

EZBlock™ Phosphatase Inhibitor Cocktail I (50X)(Cat. #K273-1)



Inhibition of Acid Phosphatase and Alkaline Phosphatase

500 pmol/well of methylumbelliferyl phosphate disodium (MUP) + **EZBlock™ Phosphatase Inhibitor Cocktail I (50X) (Cat. #K273-1)** was added at 0, 50-fold (50X), 25-fold (25X) or 10-fold (10X) dilution into final reaction volume. Equal amounts of Alkaline Phosphatase or Acid Phosphatase were added to their respective wells. Amount of MUP hydrolyzed detected fluorimetrically (Ex/Em = 360/440 nm). EZBlock™ Phosphatase Inhibitor Cocktail I (50X) used at 50X, 25X and 10X dilutions inhibited Alkaline Phosphatase activity by 85 %, 90 % and 96 %, respectively and that of Acid Phosphatase activity by 80 %, 85 % and 96 %, respectively.



Protease Inhibitors

Product Name	Catalog No.	Size
Aclacinomycin A	2032-5, -25	5 mg, 25 mg
AEBSF.HCl	1644-200, -1000	200 mg, 1 g
Aprotinin	4690-5, -100, -1000	5 mg, 100 mg, 1 g
Batimastat (MMP Inhibitor)	1704-1, -5	1 mg, 5 mg
Bestatin	1733-25, -100	25 mg, 100 mg
Calpain Inhibitor I, ALLN	1834-5, -25	5 mg, 25 mg
Calpain Inhibitor II, ALLM	1835-5, -25	5 mg, 25 mg
Cathepsin B and L Inhibitor Z-Phe-Phe-FMK	1126-20C	20 µl (10 mM)
Cathepsin G Inhibitor	1982-1	1 mg
Celastrol	1940-5, -25	5 mg, 25 mg
E-64	1739-5, -25	5 mg, 25 mg
Elastase Inhibitor	1922-5	5 mg
Elastase Inhibitor, SPCK	1921-5	5 mg
Epoxomicin	2190-50, -250	50 µg, 250 µg
Fenbendazole	2157-100, -500	100 mg, 500 mg
GGACK Dihydrochloride	1847-5	5 mg
Granzyme B Inhibitor Ac-IEPD-CHO	1119-1	1 mg
Granzyme B Inhibitor Z-AAD-CH ₂ Cl	1128-20C	20 µl (10 mM)
Leupeptin, Hemisulfate (Synthetic)	1648-25, -50, -100	25 mg, 50 mg, 100 mg
Lopinavir	2241-50, -250	50 mg, 250 mg
Marimastat	1790-1, -5	1 mg, 5 mg
MG-115	1831-1, -5	1 mg, 5 mg
EZSolution™ MG-115	2144-1	1 mg
MG-132	1703-5, -25	5 mg, 25 mg
EZSolution™ MG-132	1791-5	5 mg
Nafamostat Mesylate	1760-10, -50	10 mg, 50 mg
P5091	2277-5, -25	5 mg, 25 mg
Pepstatin A	1732-25, -100	25 mg, 100 mg
PMSF	1548-5	5 g
PPACK Dihydrochloride	1848-5	5 mg
PS-341	1846-1, -5	1 mg, 5 mg
EZSolution™ PS-341	2145-1	1 mg
Vicriviroc Malate	1599-1, -5	1 mg, 5 mg

Protease Inhibitor Cocktails

During protein expression and isolation, endogenous cellular proteases can rapidly digest cellular proteins resulting in substantially inferior protein samples. BioVision's line of **Protease Inhibitors Cocktails** prevent these types of proteolysis events in an easy-to-use form for a broad range of proteases. They include various combinations of inhibitors at their optimum concentrations, providing researchers with a number of options to specifically choose from, including the EDTA-free form.

Product Name	Catalog No.	Size
Protease Inhibitor Cocktail	K271-500	1 kit
EZBlock™ Protease Inhibitor Cocktail, EDTA-Free	K272-1, -5, -1EA	1 ml, 5 ml, 1 set
EZBlock™ Protease Inhibitor Cocktail II	K277-1EA	1 set (5 x 1 ml)
EZBlock™ Protease Inhibitor Cocktail III	K278-1EA	1 set (5 x 1 ml)
EZBlock™ Protease Inhibitor Cocktail IV	K279-1, -1EA	1 ml, 1 set (5 x 1 ml)

Product	Inhibitors	Target Proteases
Protease Inhibitor Cocktail	Aprotonin, Bovine lung, Leupeptin, hemisulfate, Pepstatin A, and PMSF.	Aspartic, Cysteine, Serine proteases, Esterases.
EZBlock™ Protease Inhibitor Cocktail, EDTA-Free	AEBSF hydrochloride, Aprotonin, Bovine lung, Bestatin, E-64, Leupeptin hemisulfate, and Pepstatin A.	Aspartic, Cysteine, Serine Trypsin-like proteases, Aminopeptidases, Esterases.
EZBlock™ Protease Inhibitor Cocktail II	AEBSF hydrochloride, Aprotonin, Bovine lung, E-64, EDTA, Disodium and Leupeptin hemisulfate.	Cysteine, Serine Trypsin-like proteases, Aminopeptidases, Metalloproteases, Esterases.
EZBlock™ Protease Inhibitor Cocktail III	AEBSF hydrochloride, Bestatin, E-64, EDTA, Disodium, Pepstatin A.	Aspartic, Cysteine, Serine proteases, Aminopeptidases, Metalloproteases.
EZBlock™ Protease Inhibitor Cocktail IV	AEBSF hydrochloride, E-64, EDTA, Pepstatin A, O-Phenanthroline.	Aspartic, Cysteine, Serine proteases, Metalloproteases.

Universal Protease and Phosphatase Inhibitor Cocktails

BioVision introduces two new **Universal Protease and Phosphatase Inhibitor Cocktails (Cat. #s K283 and K284)** which provide comprehensive protection against both proteases and phosphatases during protein extraction and purification.

Product Name	Catalog No.	Size
EZBlock™ Universal Protease and Phosphatase Inhibitor Cocktail	K283-1, -1EA	1 set, 5 sets (5 x 1 ml)
EZBlock™ Universal Protease and Phosphatase Inhibitor Cocktail , EDTA-Free	K284-1, -1EA	1 ml, 1 set (5 x 1 ml)

Product	Inhibitors	Target
EZBlock™ Universal Protease and Phosphatase Inhibitor Cocktail	Aprotonin, Bestatin, E-64, Leupeptin, Sodium Fluoride, Sodium orthovanadate, Sodium pyrophosphate and EDTA, Disodium, and β-Glycerophosphate.	Cystein proteases, Serine proteases, trypsin-like proteases, Esterases, Aminopeptidases, Metalloprotease, Acid/Alkaline phosphatases, Ser/Thr phosphatases, PTPs.
EZBlock™ Universal Protease and Phosphatase Inhibitor Cocktail, EDTA-Free	Aprotonin, Bestatin, E-64, Leupeptin hemisulfate, Sodium Fluoride, Sodium orthovanadate, Sodium pyrophosphate, and β-Glycerophosphate.	Cystein proteases, Serine proteases, trypsin-like proteases, Esterases, Aminopeptidases, Acid/Alkaline phosphatases, Ser/Thr phosphatases, PTPs.



Fractionation Kits: Yeast Cells

Product Name	Catalog No.	Size
Yeast Mitochondria Isolation Kit	K259-50	50 assays
Yeast Nuclei Isolation Kit	K289-50	50 assays

Yeast Mitochondria Isolation Kit (Cat. #K259)

“Isolates Intact Yeast Mitochondria”

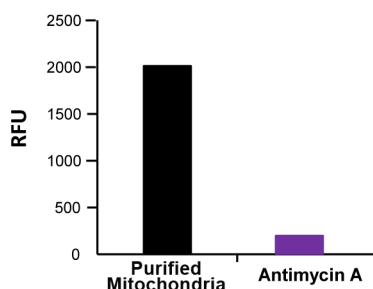
BioVision's **Yeast Mitochondria Isolation Kit** provides a simple and convenient protocol for the isolation and purification of mitochondria from yeast cells, which makes it useful for the study of mitochondrial respiration, assembly of the respiratory complexes, apoptosis, mtDNA and mtRNA, and for protein profiling. This kit delivers excellent yield and purity with *Pichia pastoris* and *Saccharomyces cerevisiae* and can be used to isolate mitochondria from other yeast. Under fermentable media, the yield is ~150-200 µg of mitochondria and under non-fermentable media (e.g. Glycerol) ~200-250 µg of mitochondria from a culture of OD ~20.

Features and Benefits:

- Simple and convenient protocol.
- Unique formulations of ready-to-use buffers and reagents to isolate intact mitochondria.

Applications:

- Isolation of highly pure intact mitochondria from yeast cells.
- Mitochondrial respiration studies, assembly of the complexes, apoptosis, mtDNA and mtRNA, and for protein profiling.
- Western blot and ELISA.



Mitochondria Integrity Test

Purified mitochondria were analyzed for intactness by using JC-1 dye, which tests the electrochemical proton gradient ($\Delta\psi$) of the inner mitochondrial membrane. The intact purified mitochondria shows aggregation of JC-1 dye whose signal can be measured at Ex/Em = 530/590 nm. Treatment with Antimycin A (100 µg) dissipates mitochondrial membrane potential resulting in reduced fluorescence signal.

Yeast Nuclei Isolation Kit (Cat. #K289)

“The Only Kit on the Market to Isolate Yeast Nuclei”

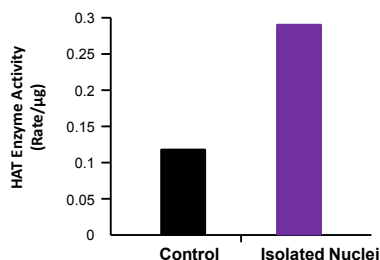
To understand the nature of the replication and expression of the yeast genome, it is essential to have a method for the preparation of nuclei at different stages of growth. BioVision's **Yeast Nuclei Isolation Kit** enables fast and easy purification of nuclei from yeast cells.

Features and Benefits:

- Simple, rapid and easy method to purify yeast nuclei.

Applications:

- DNA-Protein interaction, RNA-Protein interaction and Protein-Protein interaction studies.
- DNase I footprinting analysis, Enzymatic Assays and Pull-down assay
- Western blot and ELISA.



Functional Activity of Isolated Yeast Nuclei

Purified yeast nuclei were analyzed for HAT enzyme activity using H3 substrate by BioVision's **HAT Activity Colorimetric Assay Kit (Cat. #K332)**. In yeast, H3-dependent HAT activity is nuclear-specific. Positive control: Nuclear Extract (NE, 4 mg/ml). Purified nuclei show significant HAT enzyme activity.

FRACTIONATION

Fractionation Kits: Mammalian Cells

Product Name	Catalog No.	Size
FractionPREP™ Cell Fractionation Kit	K270-50	50 assays
Cell Surface Protein Isolation Kit	K821-50	50 assays
Cytosol/Particulate Separation Kit	K267-50	50 assays
Mammalian Cell Extraction Kit	K269-500	500 assays
EZLys™ Mammalian Protein Extraction Reagent	8004-100, -500	100 ml, 500 ml
Membrane Protein Extraction Kit	K268-50	50 assays
Mitochondria Isolation Kit For Tissue and Cultured Cells	K288-50	50 assays
Mitochondria/Cytosol Fractionation Kit	K256-25, -100	25 assays, 100 assays
Mitochondria DNA Isolation Kit	K280-50	50 assays
Nuclear/Cytosol Fractionation Kit	K266-25, -100	25 assays, 100 assays

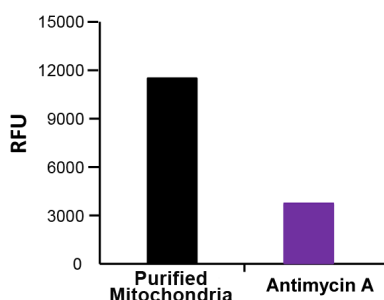
Mitochondria Isolation Kit for Tissues and Cultured Cells (Cat. #K288)

“Isolates Pure, Intact and Functional Mitochondria”

BioVision's **Mitochondria Isolation Kit for Tissue and Cultured Cells** offers two options for the isolation of intact mitochondria. The first option is utilizing a reagent-based method allowing parallel processing of multiple samples. The second option uses traditional dounce homogenization, which provides better mitochondrial yield.

Features and Benefits:

- Simple and rapid method to isolate highly pure, intact and functional mitochondria from tissues and cultured cells.

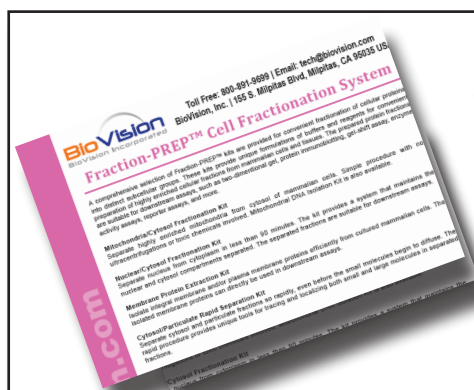


Applications:

- Useful for mitochondrial respiration studies, assembly of complexes, apoptosis, mtDNA and mtRNA, and protein profiling.
- Western blot and ELISA.

Mitochondria Integrity Test

Mitochondria (100 µg) were purified from mouse liver and tested for intactness using JC-1 dye, which tests the electrochemical proton gradient ($\Delta\psi$) of the inner mitochondrial membrane. The intact purified mitochondria show aggregation of JC-1 dye whose signal can be measured at Ex/Em = 530/590 nm. Treatment with Antimycin A (100 µg) dissipates mitochondrial membrane potential resulting in reduced fluorescence signal.



Download the “Fraction-PRÉP™ Cell Fractionation System” Flyer from www.biovision.com!

- This flyer features a comprehensive selection of Fraction-PRÉP™ kits for convenient fractionation of cellular proteins into distinct subcellular groups.
- These kits provide unique formulations of buffers and reagents for convenient preparation of highly enriched cellular fractions from mammalian cells and tissues.
- The prepared protein fractions are suitable for multiple downstream assays.



BioVision's Easy-to-Use DiaEasy™ Dialyzer Tubes

"The Most User-Friendly Dialysis Sets on the Market"

BioVision's **DiaEasy™ Dialyzer Tubes** have the dual advantage of being useful for both dialysis and electroelution, thus avoiding many of problems associated with traditional dialysis methods such as tremendous time consumption, sample loss, contamination and high sample dilutions requiring further concentration. They come as sets of tubes with floating racks and/or supporting trays for convenient handling of the tubes in the exchange buffer and electroelution. This combination provides a unique tool for extraction of any protein, protein-protein, or protein DNA complex from non-denaturing and denaturing (SDS) polyacrylamide gels, and for extraction of oligonucleotides, RNA, and DNA from both polyacrylamide and agarose gels. The DiaEasy™ tube's membranes are ultra-clean, sulfur and heavy metal free and EDTA treated which making harvested proteins and nucleic acids suitable for molecular biology experiments. These DiaEasy™ tubes allow rapid, secure and simple loading and recovery. These high performance dialysis tubes are the most convenient, user friendly dialysis system on the market.



DiaEasy™ Dialyzer Tubes

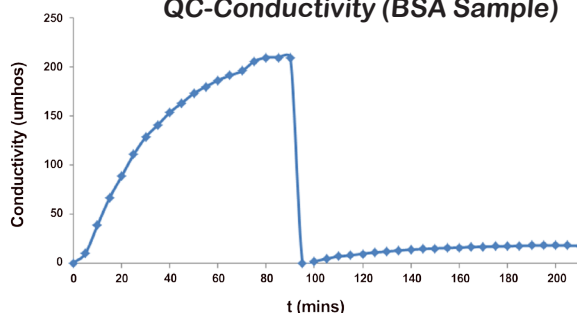
Features and Benefits:

- The most convenient, efficient and user-friendly dialysis sets on the market.
- Single step efficient dialysis saves time and eliminates the need for additional equipment.
- Samples pass through the tubes once, eliminating repeated dilutions and concentrations.
- Single step decreases the risk of potential protein aggregation and precipitation and ensures high activity retention.
- Elution times are as low as 10 minutes and range up to 150 minutes based on multiple criteria including the sample content, size and volume. proteins respectively.

Applications:

- Dialysis/buffer exchange and sample concentration.
- High throughput and large scale dialysis.
- Preparation of protein samples for MALDI-MS.
- Peptide dialysis as small as 10 amino acids.
- Purification of viral-particles, tissue culture extracts, salts, surfactants, solvents & detergents.
- Complex formation studies (protein-protein, protein-DNA and protein-RNA).
- pH and buffer adjustment of sample solution, protein extract or cell extract.
- 2D gel dots extraction.
- Extraction of proteins, RNA, DNA or oligonucleotides (>20 nt) from polyacrylamide, agarose or any gel matrix in any running buffer.

QC-Conductivity (BSA Sample)



	Conductivity (umhos)	Protein Recovery (%)
Before	155,700	100
After	2320	93

Dialysis Tube Accessories:

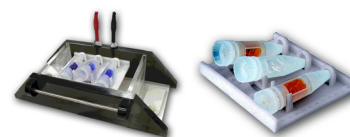
Product Name	Catalog #	Size
DiaEasy™ Dialyzer (10, 15, 20 ml) Floating Racks	1000-5, -10	5 and 10 racks
DiaEasy™ Dialyzer (3 ml) Floating Racks	1016-5, -10	5 and 10 racks
DiaEasy™ Dialyzer (800 µl) Floating Racks	1018-5, -10	5 and 10 racks
DiaEasy™ Dialyzer (250 µl) Floating Racks	1020-5, -10	5 and 10 racks



DiaEasy™ Dialysis Floating Racks

Electroelution Accessories

Product Name	Catalog #	Size
DiaEasy™ Dialyzer (3 ml) Supporting Trays	1017-5, -10	5 and 10 trays
DiaEasy™ Dialyzer (800 µl) Supporting Trays	1019-5, -10	5 and 10 trays
DiaEasy™ Dialyzer (250 µl) Supporting Trays	1028-5, -10	5 and 10 trays



DiaEasy™ Dialysis Supporting Trays

DiaEasy™ Dialyzer Tube Sets

Product Name	Catalog Nos.	Size
DiaEasy™ Dialyzer (250 µl) MWCO 6-8 kDa	K1020-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (250 µl) MWCO 12-14 kDa	K1021-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (250 µl) MWCO 25 kDa	K1022-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (800 µl) MWCO 1 kDa	K1017-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (800 µl) MWCO 3.5 kDa	K1018-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (800 µl) MWCO 6-8 kDa	K1019-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (3 ml) MWCO 3.5 kDa	K1012-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (3 ml) MWCO 6-8 kDa	K1013-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (3 ml) MWCO 12-14 kDa	K1014-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (3 ml) MWCO 25 kDa	K1015-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (3 ml) MWCO 50 kDa	K1016-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (10 ml) MWCO 1 kDa	K1011-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (10 ml) MWCO 3.5 kDa	K1002-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (10 ml) MWCO 6-8 kDa	K1005-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (10 ml) MWCO 12-14 kDa	K1008-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (15 ml) MWCO 1 kDa	K1010-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (15 ml) MWCO 3.5 kDa	K1001-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (15 ml) MWCO 6-8 kDa	K1004-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (15 ml) MWCO 12-14 kDa	K1007-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (20 ml) MWCO 1 kDa	K1009-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (20 ml) MWCO 3.5 kDa	K1000-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (20 ml) MWCO 6-8 kDa	K1003-10, -25, -100	10 tubes, 25 tubes, 100 tubes
DiaEasy™ Dialyzer (20 ml) MWCO 12-14 kDa	K1006-10, -25, -100	10 tubes, 25 tubes, 100 tubes

"The DiaEasy™ dialyzer system is very convenient. The free-standing tube type helps in easy loading and recovery of samples by freeing both hands. The screw cap curtails leakage. The floating racks reduce the tube's contact with the stirrer, thereby minimizing breakage. The membrane is very durable and does not collapse easily. I have repeatedly used it with great success. I would highly recommend these tubes."

Jianping Xu, Ph.D.
Scientist/Protein Group Leader

"Easy to use, leakage-free, reliable dialysis system. Definitely better than other alternatives on the market."

Celine Boben, M.S.
Production Manager

"The DiaEasy™ dialyzer system has become my favorite tool to efficiently remove small molecules like NaCl and BME during protein purification. They are extremely convenient to use and I also get high recovery of proteins with these tubes. Therefore I strongly suggest the use of these tubes over conventional dialysis tubes."

Hongying Chen, M.S.
Senior Research Associate



Spin Desalting Columns

Product Name	Catalog No.	Size
EZ-Desalt™ Spin Desalting Columns	6564-25	25 columns

EZ-Desalt™ Spin Desalting Columns

Description:

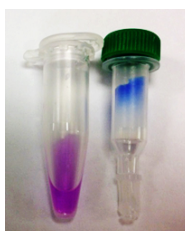
- 7K MWCO, Column: 0.5 ml pre-swollen Sephadex G-25 beads in PBS with 0.1% sodium azide.
- Centrifugation at 1,500 x g separates high and low molecular weight components.
- Samples volume: 30 to 130 µl.

Features and Benefits:

- Seamlessly integrates into any protein purification protocol.
- Convenient for quick desalting, buffer-exchange, or clean-up of protein samples in solution.
- Disposable, ready-to-use.
- Excellent recovery of proteins (>90%).
- The column can be used in either a swing bucket or fixed angle rotors.
- No extra accessories needed: 2.0 ml and 1.5 ml centrifuge tubes can be used.

Applications:

- Buffer exchange
- Removal of undesired small molecules in protein purification
 - Imidazole in His tag affinity purified proteins.
 - Free biotin following a protein biotinylation reaction.
 - Free radioactive labels from protein targets like 32^P-GTPase or 32P phosphorylated proteins.
 - Free small molecules from Protein Click-Chemistry reaction samples.
 - LMW enzyme inhibitor in an enzymatic reaction.
 - Free fluorescent dyes after labeling of proteins.



EZ-Desalt™ Spin Desalting Columns

Mixture of mCherry protein (MW 28.8 kDa) and Bromophenol blue (MW 670) were separated: Fluorescent protein mCherry eluted from column, while Bromophenol blue remained inside the column.

Protein recovery rate - using BCA protein assay shows >90% BSA in PBS solution was eluted.

Ammonium Sulphate Saturated Solution

Product Name	Catalog No.	Size
Ammonium Sulphate Saturated Solution	7096-1L	1 liter

Protein solubility is dependent on the ionic strength of the solution, among other factors. Two distinct phenomenon of protein solubilization are seen in general: 1) Salting in: At low salt concentrations, the solubility of the protein increases with increasing salt concentration (i.e. increasing ionic strength). 2) Salting out: As the salt concentration (ionic strength) increases, the solubility of the protein begins to decrease. At certain ionic strength, the protein will be almost completely precipitate from the solution. Since proteins differ markedly in their solubility at high ionic strength, salting-out is a very useful procedure to assist in the purification of a given protein.

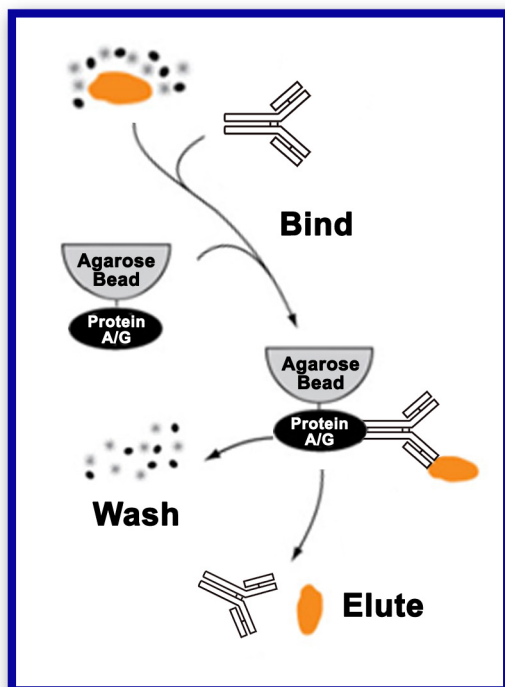
Ammonium sulfate is widely used in salting out for protein fractionation, as it has high water solubility, consists of two ions that are high in the Hofmeister series¹, and rarely has adverse effects on enzyme activity. It is generally used as a saturated aqueous solution which is diluted to the required concentration and expressed as a percentage concentration of the saturated solution (a 100% solution). While ammonium sulfate fractionation is a low resolution technique, it is used successfully to reduce the complexity and decrease the sample volume on a daily basis by many scientists.

Applications:

- Purification of proteins.
- Concentration of protein solutions.
- Buffer exchange.
- Remove interference of small molecules from protein/enzyme solutions.

Compatible Sample Types:

- Serum, plasma & other body fluids.
- Tissues extracts, animal, plant, bacterial extracts, etc.
- Cell culture supernatants.
- Fermentation media.



High Reproducibility, High Capacity, High Specificity

Purification of proteins is a demanding task that in spite of numerous attempts to streamline and order the process often leads to unexpected results. While the reasons for such outcomes are many, one can minimize some major factors that affect yield, purity and preservation of biological activity of the proteins that are being purified.

For example, utilization of purification adsorbents that offer both high reproducibility, high capacity, high specificity and high flow rates (for speedy recovery of the targets) addresses a number of issues. BioVision offers such adsorbents with the features described above that deliver significant benefits to their user in terms of quality of the obtained target proteins coupled with cost savings.

We offer protein purification tools covering almost all major separation principles, including tools for recombinantly expressed as well as native wild type proteins.

Seamless Integration

Seamless integration of our sample preparation tools with the protein purification adsorbents and buffer system results in savings both in terms of time and cost and fulfill the needs of large number of customers.

Starting with purification of your favorite antibody and finishing with tools for purifying poly-histidine and GST-tagged proteins while applying finishing touches with Heparin or Endotoxin removal adsorbents provides broad range of complementing protein purification products.

Protein Purification

- **PROTEIN BEADS/COLUMNS/ BUFFERS**

Purification of Antibodies

Purification of Recombinant Proteins

Purification of DNA Binding Proteins

IP for Wild Type Proteins

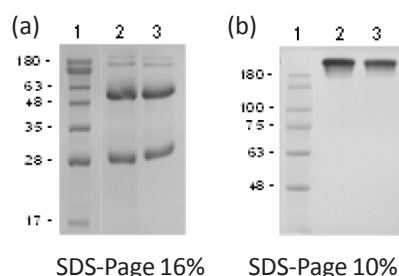


Purification of Antibodies

Product Name	Catalog No.	Size
Jacalin-Sepharose	6561-1, -5, -25	1 ml, 5 ml, 25 ml
Protein A-Agarose	6526-1, -5, -25, -100	1 ml, 5 ml, 25 ml, 100 ml
Hi-Bind™ Protein A-Agarose	6520-1, -5, -25, -100	1 ml, 5 ml, 25 ml, 100 ml
Protein A IgG Binding Buffer	6524-1000, -3750	1000 ml, 3750 ml
Protein A IgG Purification Buffer Kit	K6529-3	3 buffers
Protein A Magnetic Beads	6507-1	1 ml
Protein A Sepharose	6501-1, -5, -25, -100	1 ml, 5 ml, 25 ml, 100 ml
Protein A Sepharose Column	6508-1, -5	1 ml, 5 ml
Protein A/G Magnetic Beads	6527-1	1 ml
Protein A/G Sepharose	6503-1, -5, -25, -100	1 ml, 5 ml, 25 ml, 100 ml
Protein A/G Sepharose Column	6528-1, -5	1 ml, 5 ml
Protein A/G/L Magnetic Beads	6547-1	1 ml
Protein A/G/L Sepharose	6541-1, -5, -25, -100	1 ml, 5 ml, 25 ml, 100 ml
Protein A/G/L Sepharose Column	6548-1, -5	1 ml, 5 ml
Hi-Bind™ Protein G-Agarose	6513-1, -5, -25, -100	1 ml, 5 ml, 25 ml, 100 ml
Protein G Magnetic Beads	6517-1	1 ml
Protein G Sepharose	6511-1, -5, -25, -100	1 ml, 5 ml, 25 ml, 100 ml
Protein G Sepharose Column	6518-1, -5	1 ml, 5 ml
Protein L Magnetic Beads	6537-1	1 ml
Protein L Sepharose	6531-1, -5, -25, -100	1 ml, 5 ml, 25 ml, 100 ml
Protein L Sepharose Column	6538-1, -5	1 ml, 5 ml

Hi-Bind™ Protein A-Agarose Beads (Cat. #6520)

Hi-Bind™ Protein A-Agarose Beads are specially prepared for high IgG binding by covalently coupling Recombinant Protein A to 6% cross-linked Agarose beads, the most popular resin for protein affinity purification methods. BioVision's **Protein A (Cat. #s 6500, 6500B)** is a genetically engineered protein containing five IgG-binding regions of native Protein A. The cell wall binding region, albumin binding region and other non-specific regions have been eliminated from the Recombinant Protein A to ensure the highest specificity of IgG binding. The coupling technique is optimized to give a higher binding capacity for IgG and minimum leaching of Recombinant Protein A compared to other Protein-A Agarose beads on the market. The IgG binding capacity of Hi-Bind™ Protein A-Agarose beads is ≥ 36 mg Human or rabbit IgG per ml of wet beads. The **Hi-Bind™ Protein A-Agarose beads** display high chemical and physical stability as well as high flow rate, hydrophilicity and high gel strength. They can be used for IgG purification and immunoprecipitation.



SDS-PAGE of Purified IgG under (a) reduced and (b) non-reduced conditions

Lane 1: Marker.

Lane 2: IgG fraction (5 μ g) purified using **Hi-Bind™ Protein A-Agarose (Cat. #6520)**.

Lane 3: IgG fraction (5 μ g) purified using **Hi-Bind™ Protein G-Agarose (Cat. #6513)**.

Protein/IgG Purification Resins

Enhanced Product Line:

- Protein A/G/L bound to Agarose/Sepharose/Magnetic Beads.
- Jacalin Sepharose Beads.
- Hi-Bind™ Ni QR Agarose Beads.

Features and Benefits:

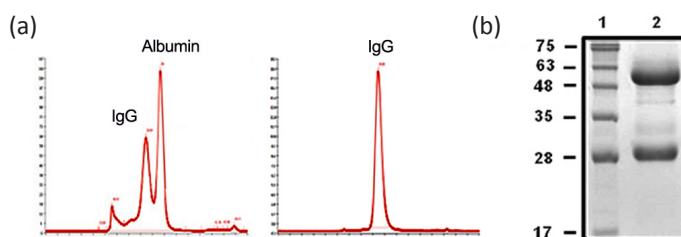
- **Enhanced Specificity:** BioVision's Protein A and G contain only IgG-binding regions of native Protein A and native Protein G respectively. The cell wall binding region, albumin binding region and other non-specific regions have been eliminated.
- **High Binding Capacity and High Flow Rate:** Lower MW of the affinity protein permits higher density of its immobilization and elevated capacity.
- **Minimal Leaching of the Ligand:** Our conjugation chemistry ensures stable immobilization that prevents loss of immobilized affinity proteins.
- **Versatility:** Binds a broad range of IgG species and subclasses.
- **Durability:** Can be regenerated and reused multiple times without deterioration of performance.
- **Convenience:** Available in multiple sizes to match all customer needs.

Applications:

- Purification of broad range of monoclonal and polyclonal antibodies.
- Isolation and purification of IgG from all types of samples.
- Isolation and purification of antigens and immune complexes by IP-Co-IP.
- Depletion of IgG from serum, culture media, ascites fluid or hybridoma supernatants.

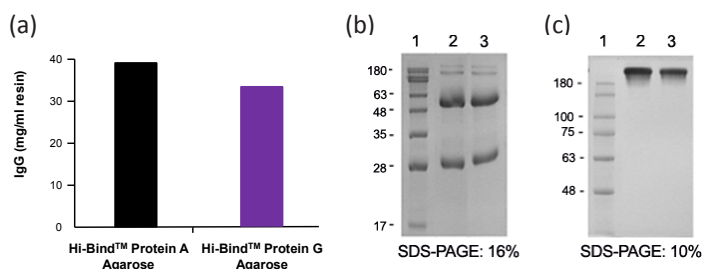
Performance

Purification of IgG using **Protein A Sepharose (Cat. # 6501)**: (a) 200 µl of starting sample (serum) (A) and purified IgG (B) were analyzed on Superdex 200 HR 10/30 column at 0.5 ml/min in 50 mM Tris, 0.25 M NaCl pH 7.5. (b) SDS-PAGE (10%) of purified IgG under reduced conditions. Lane 1: Marker, Lane 2: IgG fraction (5 µg).



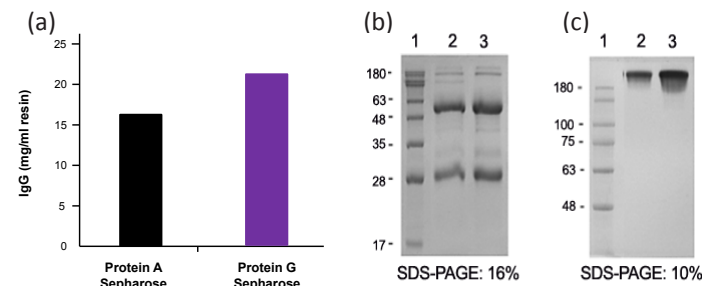
Capacity

(a) Purification of IgG from Human serum using **Hi-Bind™ Protein A-Agarose (Cat. #6520)** and **Hi-Bind™ Protein G-Agarose (Cat. #6513)**. (b) and (c) SDS-PAGE of purified IgG under reduced and non-reduced conditions respectively. Lane 1: Marker; Lane 2 and Lane 3: IgG fraction (5 µg) purified using **Hi-Bind™ Protein A-Agarose** and **Hi-Bind™ Protein G-Agarose** respectively.



Selectivity

(a) Purification of IgG from Human serum using BioVision's **Protein A Sepharose** and **Protein G Sepharose (Cat. #6511)**. (b) and (c) SDS-PAGE of purified IgG under reduced and non-reduced conditions respectively. Lane 1: Marker; Lanes 2 and 3: IgG fraction (5 µg) purified using **Protein A Sepharose** and **Protein G-Sepharose** respectively.



Protein G Sepharose – Benchmarking

BioVision's Protein G Sepharose was compared with Protein G Sepharose beads from Competitor 1 and Competitor 2.

- All three types of beads were packed in batch/gravity flow columns at 1 mL settled bed volume.
- The columns were equilibrated with PBS buffer. Each of the columns was loaded with 20 mL of 1:1 diluted in PBS rabbit serum.
- Each column was washed with PBS buffer containing additional 0.15 M NaCl until baseline absorbance was reached.
- The adsorbed IgG was eluted with 0.1 M Citrate pH 2.7 in 1 mL fractions into tubes containing 0.16 mL of 1.5 M Tris pH 8.8.
- The fractions containing protein were pooled together and 100 µl of each eluate was analyzed by analytical SEC on Superdex 200 HR 10/30 column (GE Lifesciences) in 50 mM Tris, 0.25 M NaCl pH 7.6 at 0.5 mL/min flow rate.

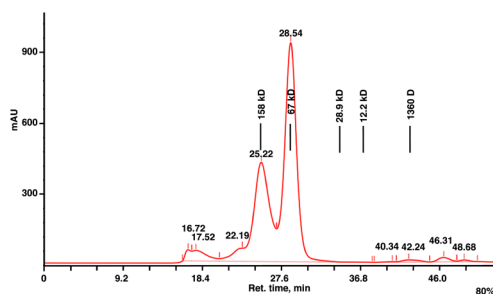


Figure A - Starting sample diluted in equal volume of SEC buffer.

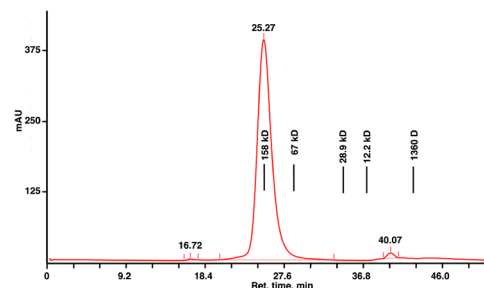


Figure B - Eluate from BioVision's Protein G Sepharose.

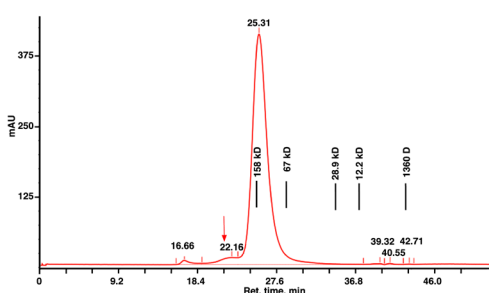


Figure C - Eluate from Competitor 1's Protein G Sepharose.

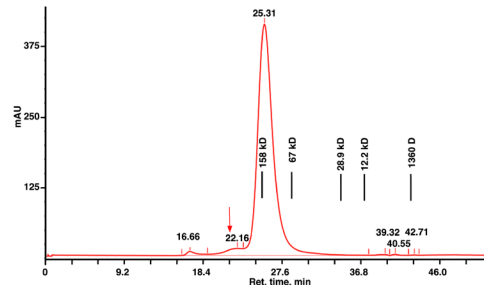


Figure D - Eluate from Competitor 2's Protein G Sepharose.

Download the “Antibody and Protein Purification Resins” Flyer from www.biovision.com!

biovision.com

Toll Free: 800-891-9699 | Email: tech@biovision.com
 BioVision, Inc. | 155 S. Milpitas Blvd, Milpitas, CA 95035 USA

Antibody and Protein Purification Resins

BioVision offers a wide range of Agarose, Sepharose & Magnetic beads coupled to Protein A, Protein G, Protein L, Protein A/G, Protein A/G/L or Jaccin to purify monoclonal and polyclonal antibodies from culture media, serum, ascites fluid or hybridoma supernatants and to isolate antibody/antigen complexes in immunoprecipitation experiments. In addition, BioVision also offers Glutathione and Heparin-Sepharose that are routinely used for purification of GST-tagged fusion proteins and heparin-binding proteins respectively.

Antibody Purification Resins

Protein A, G and L have been widely used for IgG purification. BioVision's Protein A, G and L resins consist of purified recombinant protein A, G and L respectively that have been covalently coupled to 6% cross-linked Agarose/Sepharose beads. The recombinant protein A and G contain only IgG binding domains and are purified from E. coli via multiple chromatographic steps (not affinity purified with human IgG). The albumin binding domain, cell wall binding domain and other non-specific regions have been removed to ensure the maximum specific IgG binding. Unlike Protein A and Protein G, which bind primarily through Fc regions (i.e., heavy chain) of immunoglobulin, Protein L binds IgG through interaction with the light chain. The recombinant Protein L contains only kappa light chain binding region and thus has the ability to bind a wider range of Ig classes (IgG, IgM, IgA, IgE and IgD) and subclasses. Single chain variable fragments (ScFv) and Fab fragments also bind to Protein L. Purity of these recombinant proteins is > 98% by SDS-PAGE and HPLC. Endotoxin level is < 0.1 EU/mg of Protein. The 6-His-tag on N-terminus can be used for affinity purification or detection using anti-His tag antibodies. BioVision has performed extensive research to prepare special Hi-Bind™ protein A & Hi-Bind™ protein G-Agarose beads that give a higher binding capacity for IgG, higher flow rate & minimal leaching of the ligand than the other regular Protein A & Protein G-Agarose on the market. The Protein A, G and L resins display high chemical and physical stability as well as show high flow rate, hydrophilicity & high gel strength. These resins are available in several convenient pack sizes and can be regenerated and reused multiple times when stored properly.

Protein Purification Resins

Expression & purification of recombinant proteins is important to study protein regulation, structure & function studies. Majority of the recombinant proteins are expressed as fusion proteins with short affinity tag or small proteins, such as GST. GST binds specifically to reduced glutathione. BioVision's Glutathione-Sepharose™ is prepared by covalently coupling glutathione to epoxy-activated 4% cross-linked sepharose beads to form a stable thioether linkage. Heparin-Sepharose™ is widely used for purifying serum proteins including coagulation factors, lipases, lipoproteins, hormone receptors and growth factors. BioVision's Heparin-Sepharose™ is prepared by covalently coupling heparin to epoxy-activated 4% cross-linked sepharose beads. The coupling technique for Glutathione and Heparin-Sepharose™ is optimized to exhibit high binding capacity (2.5 mg GST/100 mg Glutathione-Sepharose resin & 0.4 mg heparin/100 mg Heparin-Sepharose resin).

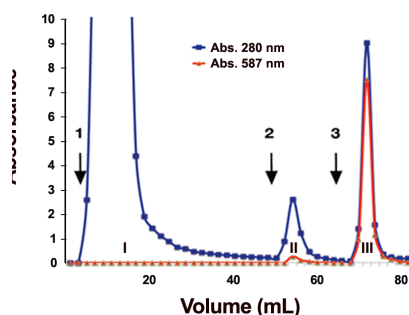
Cat. #	Size	Cat. #	Size	Cat. #	Size
6326-1	1 ml	6326-5	5 ml	6326-25	25 ml
6326-5	5 ml	6326-100	100 ml	6326-100	100 ml
6326-25	25 ml	6326-100	100 ml	6326-100	100 ml
6326-100	100 ml	6326-100	100 ml	6326-100	100 ml
6326-1	1 ml	6326-5	5 ml	6326-25	25 ml
6326-5	5 ml	6326-100	100 ml	6326-100	100 ml
6326-25	25 ml	6326-100	100 ml	6326-100	100 ml
6326-100	100 ml	6326-100	100 ml	6326-100	100 ml
6326-1	1 ml	6326-5	5 ml	6326-25	25 ml
6326-5	5 ml	6326-100	100 ml	6326-100	100 ml
6326-25	25 ml	6326-100	100 ml	6326-100	100 ml
6326-100	100 ml	6326-100	100 ml	6326-100	100 ml
6326-1	1 ml	6326-5	5 ml	6326-25	25 ml
6326-5	5 ml	6326-100	100 ml	6326-100	100 ml
6326-25	25 ml	6326-100	100 ml	6326-100	100 ml
6326-100	100 ml	6326-100	100 ml	6326-100	100 ml
6326-1	1 ml	6326-5	5 ml	6326-25	25 ml
6326-5	5 ml	6326-100	100 ml	6326-100	100 ml
6326-25	25 ml	6326-100	100 ml	6326-100	100 ml
6326-100	100 ml	6326-100	100 ml	6326-100	100 ml

Purification of Recombinant Proteins

Product Name	Catalog No.	Size
Glutathione Sepharose	6555-1, -10, -50	1 ml, 10 ml, 50 ml
Hi-Bind™ Ni QR Agarose Beads	6562-1, -10, -100, -500	1 ml, 10 ml, 100 ml, 500 ml
Ready-to-Use Ni QR Agarose Beads Buffer Kit	K6563-3	3 components
Ni-IDA Spin Columns	6567-25	25 spin columns
Ready-to-Use Ni-IDA Spin Purification Kit	K6567-25	25 columns, 5 components
Streptavidin-Sepharose	6565-2, -5, -10	2 ml, 5 ml, 10 ml

Ready-to-Use Ni QR Agarose Beads Buffer Kit (Cat. #K6563)

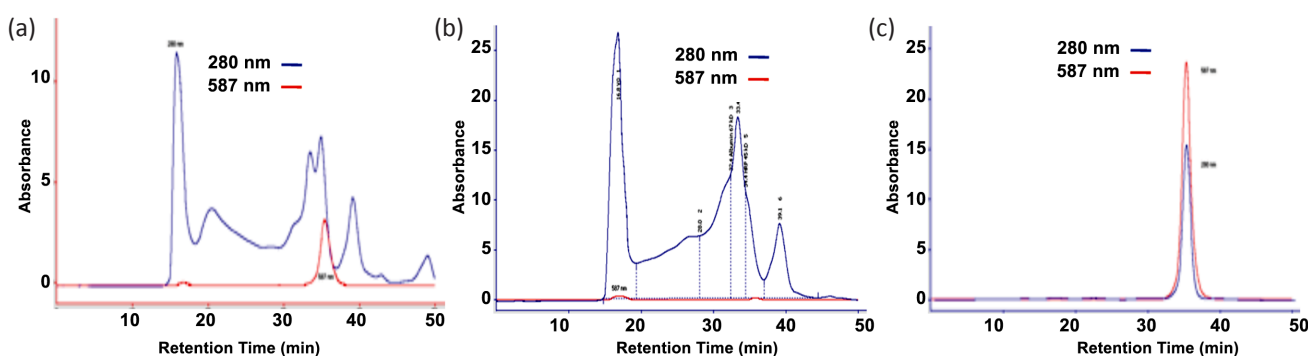
BioVision's **Ready-to-Use Ni QR Agarose Beads Buffer Kit** works seamlessly with **Hi-Bind™ Ni QR Agarose Beads (Cat. #6562)** for the isolation of target to obtain highly purified and biologically active protein. These buffers and extraction reagents deliver efficient extraction of target protein (as high as 96% efficiency by SDS boiling method) while preserving its integrity. The buffer components are designed to minimize the metal ion leaching while preserving the biological activity of precious target proteins. This kit is sufficient for purification of up to 300 mg of target protein using 5 ml of **Hi-Bind™ Ni QR Agarose Beads (Cat. #K6562)** or equivalent under batch/gravity flow conditions.



Purification of 6xHis-mCherry using Ready-to-Use Ni QR Agarose Beads Buffer Kit

1 g of *E. coli* pellet expressing 6xHis-mCherry was extracted with 10 ml of **EZLys™ Mammalian-Bacterial Protein Extraction Reagent (Cat. #6563-3-1)**. 8 ml was loaded at 0.5 ml/min. on 1 cm.i.d x 1.8 cm length column equilibrated with Loading Buffer. The column was washed at 1 ml/min. with Loading Buffer (Arrow 1, Peak I), 25 mM imidazole in the Loading Buffer (Arrow 2, Peak II) and 6xHis-mCherry was eluted with 250 mM imidazole in the Loading Buffer (Arrow 3, Peak III).

Analytical SEC of *E. coli* Loaded on Hi-Bind™ Ni QR Agarose Beads Column

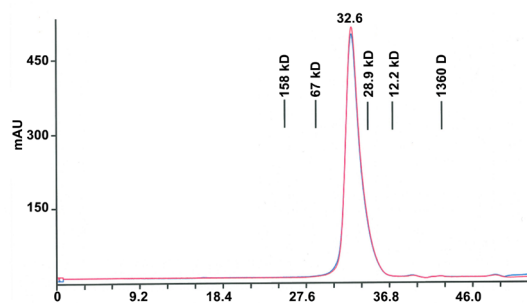


200 μ l of 10:1 dilution of the extract was loaded and analyzed at 0.5 ml/min. on Superdex 200 HR 10/30 column in 50 mM sodium phosphate, 0.2 M NaCl; pH 7.5. b. Analytical SEC of Peak I, Figure 1: 200 μ l of pooled fractions of the non-adsorbed material were loaded and analyzed at 0.5 ml/min. on Superdex 200 HR 10/30 column in 50 mM sodium phosphate, 0.2 M NaCl; pH 7.5. Specific 587 nm absorbance peak of mCherry at approximately 36 min. is almost completely depleted. c. Analytical SEC of Peak III, Figure 1: 200 μ l of pooled fractions of eluted 6xHis-mCherry were desalted on PD-10 column, loaded and analyzed at 0.5 ml/min. on Superdex 200 HR 10/30 column in 50 mM sodium phosphate, 0.2 M NaCl; pH 7.5. Specific 587 nm absorbance peak of mCherry at approximately 36 min. overlaps with the single 280 nm absorbance peak.



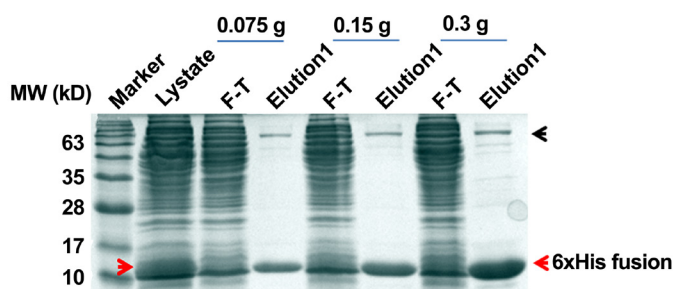
Ready-to-Use Ni-IDA Spin Purification Kit (Cat. #K6567-25)

BioVision's **Ready-to-Use Ni-IDA Spin Purification Kit** provides an all-inclusive set of reagents required for the small-scale purification of poly-histidine-tagged proteins rapidly. The kit includes ready to use Ni-IDA spin columns, column loading buffer, wash buffer, elution buffer and micro-centrifuge tubes. Each of the Ni-IDA Spin Columns is filled with 100 μ L of high performance Hi-Bind™ Ni QR Agarose Beads (Cat. #6562), enabling efficient capture and purification of up to 2.8 mg of poly-histidine tagged proteins per column. The small volume of beads inside the columns is optimal for loading various amounts of sample. At normal expression levels, it permits efficient displacement of non-tagged protein impurities by the more strongly binding poly-histidine tagged targets and improves the purity of the final product. The beads packed in each column deliver as much as 25% higher capacity than Ni-NTA adsorbents while dramatically decreasing purification times due to the ability to perform centrifugation. The yield and purity of purification are protein specific and depends on various factors like the expression level, structure, solubility etc.



Analytical SEC of *E. coli* Extract Expressing 6xHis-mCherry Purified with Ready-to-Use Ni-IDA Spin Purification Kit

0.15 gms pellet extract was analyzed on Superdex 200 HR 10/30 column. Specific 587 nm absorbance (red) peak mCherry (approximately 16 mins), overlaps with single 280 nm absorbance (blue) peak, suggesting high purity level.



SDS-PAGE Image of His-tagged Proteins Purified with Ready-to-Use Ni-IDA Spin Purification Kit

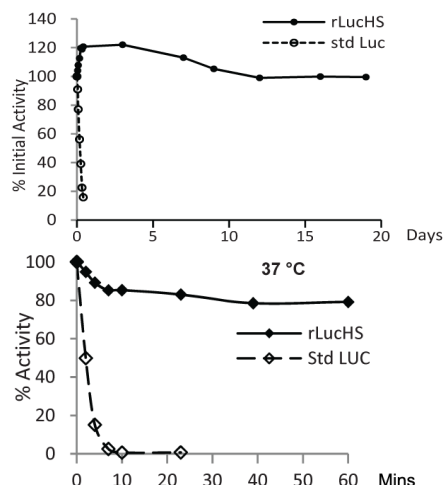
E. coli pellets expressing a 6xHis-tagged protein of approximate 13.3 kDa (0.075g, 0.15g and 0.3g pellet) were lysed with 4 volumes of **EZLys™ Mammalian-Bacterial Protein Extraction Reagent (Cat. #6563-3-1)**. The 6xHis fusion lysate was purified with **Ready-to-Use Ni-IDA Spin Purification Kit**. The lysate, flow-through and the first elution were resolved by SDS-PAGE, and stained with Coomassie. The red arrow indicates 6xHis fusion, and the black arrow may be the oligomeric form.

Purification of DNA-Binding Proteins

Product Name	Catalog No.	Size
Heparin Sepharose	6553-1, -10, -50	1 ml, 10 ml, 50 ml
Heparin Sepharose Column	6554-1, -5	1 ml, 5 ml

IP for Wild-Type Proteins

Product Name	Catalog No.	Size
Immunoprecipitation (IP) Kit	K286-25	25 assays
HDAC1 Immunoprecipitation (IP) and Activity Assay Kit	K342-25	25 assays
HDAC2 Immunoprecipitation (IP) and Activity Assay Kit	K341-25	25 assays
HDAC3 Immunoprecipitation (IP) and Activity Assay Kit	K344-25	25 assays
Mitochondria Protein IP Kit	K285-50	50 assays



Tools for the Identification, Analysis, and Quantification of Proteins

While versatility of the protein chemistry and activity is a hindrance for many, BioVision aims to fulfill a very ambitious goal of supplying researchers with as many as possible tools to detect and analyze their protein targets.

With thousands of antibodies and protein markers we are really putting emphasis on enabling research progress. Combined with our IP Immunoprecipitation Kits, our antibodies can in many cases help isolate and study protein targets as well as their binding partners.

BioVision provides high quality epitope antibodies for all major purification and detection tags.

In terms of addressing generic needs we offer a number of kits for determination of protein concentrations as well as western detection reagents. We also supply a large number of control lysates and biological controls that deliver means of calibration in your experiments.

Our BioAssay kits enable the detection of number of extremely important proteins.

Our product line of detection reagents works seamlessly with our Protein Isolation and Purification Products and together all three groups of products provide every scientist with a complete solution for obtaining and studying their target protein and generating peer review quality data.

Protein Analysis

• PROTEIN QUANTIFICATION TOOLS

- BCA Assay Kits
- Biotin Assay Kit
- Protein Carbonyl Content Assay Kit
- Protein Quantitation Kit

• PROTEIN DETECTION

- Antibodies
- Mounting Media
- Controls
- Substrates
- Blocking Reagents
- Fluorescent Proteins
- Labelling/Cross-Linking Reagents



Protein Quantification Tools

Product Name	Catalog No.	Size
ExtraSense™ BCA Protein Assay Kit	K814-2500, -5000	2500 assays, 5000 assays
BCA Protein Assay Kit II	K813-2500, -5000	2500 assays, 5000 assays
BCA Protein Assay Kit- Reducing Agent Compatible	K818-1000	1000 assays
BCA Protein Assay Kit (Test Tube)- Reducing Agent Compatible	K819-250	250 assays
BCA Protein Quantitation Kit	K812-1000	1000 assays
Biotin Assay Kit	K811-50	50 assays
Protein Carbonyl Content Assay Kit	K830-100	100 assays
Protein Quantitation Kit	K810-1000	1000 assays

ExtraSense™ BCA Protein Assay Kit (Cat. #K814)

"The Most Sensitive Kit on the Market"

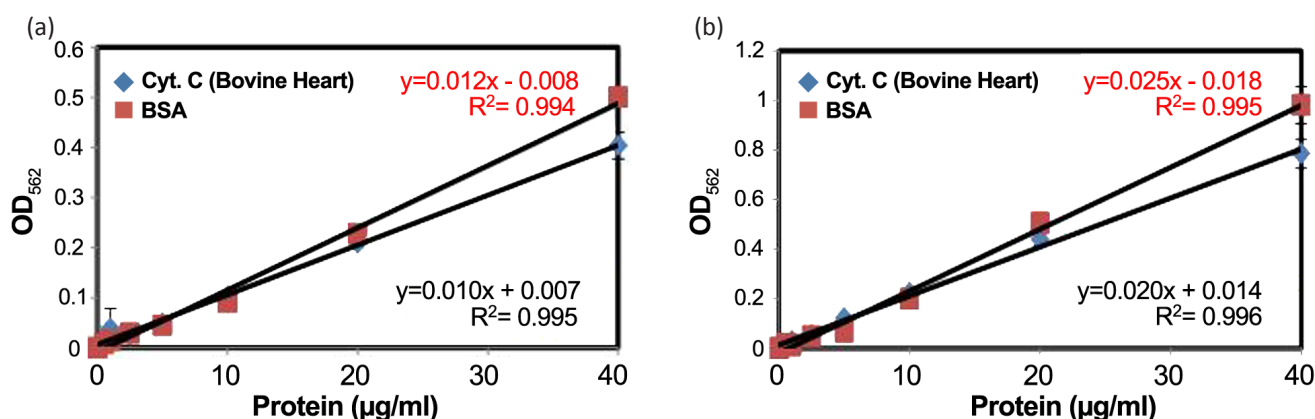
BioVision's **ExtraSense™ BCA Protein Assay Kit** provides an ultra-sensitive method to detect and quantify total protein concentration even in the presence of detergents. This kit has been optimized for determining total protein content in low protein concentration samples (0.5-40 µg/ml). The assay is based on the reaction of bicinchoninic acid (BCA) with the cuprous cation (Cu^+), which is generated by reduction of cupric cation (Cu^{2+}) with the protein in alkaline conditions. The Cu^+ -BCA chelate is a water-soluble complex and exhibits a strong absorbance at 562 nm that is linear over a concentration range of 0.5-40 µg/ml. In general, protein concentrations are estimated with reference to a commonly used protein standard. The Kit includes Bovine Serum Albumin (BSA) as a protein standard for estimation of total protein content of samples.

Kit Summary:

- Detection method- Absorbance (562 nm).
- Detergent compatible.

Features and Benefits:

- Simple and convenient.
- Optimized for determining total protein content in low protein concentration samples (0.5-40 µg/ml).



Typical absorbance plots obtained for BSA and Cytochrome C from Bovine Heart (Cat. #2120) by using (a) microplate procedure (37°C for 2 hours) and (b) test tube procedure (60°C for 1 hour).

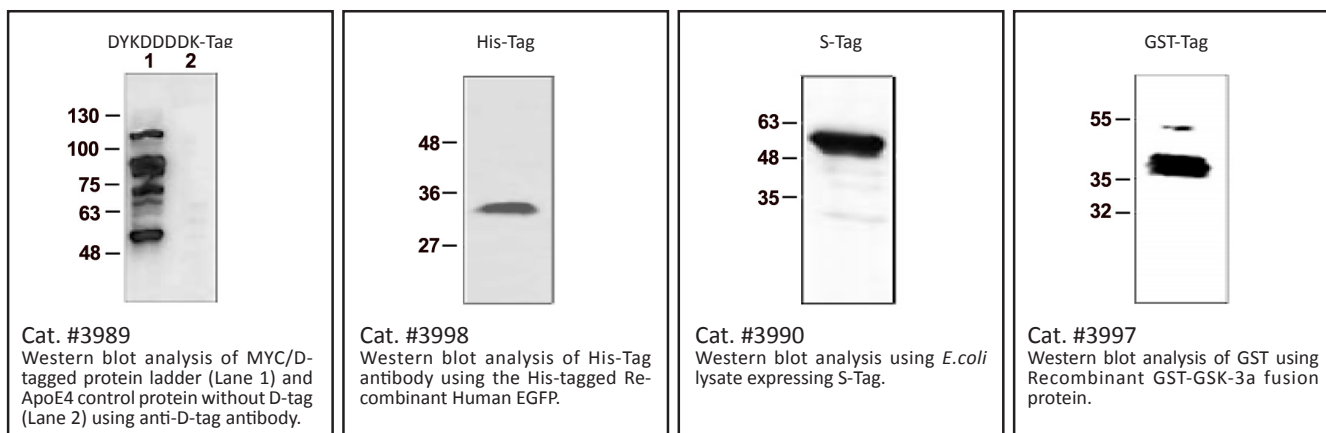
Antibodies

Tag Antibodies

Product Name	Catalog No.	Size
CBP-Tag Antibody	3960-100	100 µg
DYKDDDDK-Tag Antibody	3989-100	100 µg
DYKDDDDK-Tag Antibody (Clone IE6)	3022-100	100 µg
GST-Tag Antibody	3997-100	100 µg
HA-Tag Antibody (Clone 12CA5[2])	3996-200	200 µg
His-Tag Antibody	3998-100	100 µg
His-Tag Antibody (Clone BV-G020)	3646-100	100 µg
Myc-Tag Antibody	3995-100	100 µg
Anti-PEG Antibody (Clone 09F02)	5018-100	100 µg
Anti-PEG Antibody (Clone 26A04)	5019-100	100 µg
S-Tag Antibody	3990-100	100 µg
SBP-Tag Antibody	3986-100	100 µg
Strep-Tag II Antibody	3988-100	100 µg
T7 Epitope -Tag Antibody	3987-100	100 µg
V5-Tag	3985-100	100 µg

Tag Antibodies

HA-tag, His-Tag, Flag-Tag, Myc-Tag, GST-Tag, S-Tag



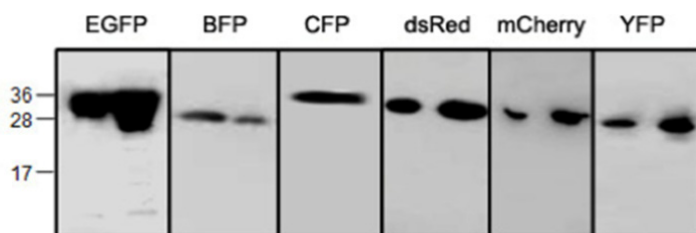
Download the “Tag Antibodies” Flyer from www.biovision.com

Antibodies

Fluorescent Protein Antibodies

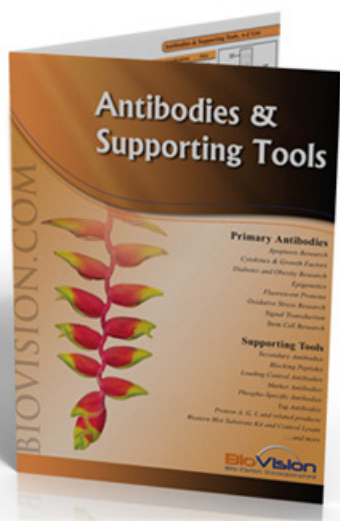
Product Name	Catalog No.	Size
BFP Antibody	5994-100	100 µg
CFP Antibody	5986-100	100 µg
GFP Antibody	3999-100	100 µg
mCherry Antibody	5993-100	100 µg
RFP (dsRed) Antibody	3993-100	100 µg
YFP Antibody	3991-100	100 µg
Fluorescent Protein Antibody Set	K817-6-100	6 x 100 µg

Antibodies Against Fluorescent Proteins



Western Blot Analysis Using Recombinant Fluorescent Proteins Probed with Individual Antibodies

EGFP (250 ng, 1 µg); BFP (100 ng, 50 ng); CFP (100 ng, 50 ng); dsRed (10 ng, 20 ng), mCherry (10 ng, 20 ng); and YFP (10 ng, 20 ng).



Visit www.biovision.com and download the “Antibodies and Supporting Tools” brochure today!

BioVision has recently expanded its selection of primary antibodies and their corresponding blocking peptides to encompass the majority of areas of current research interest. Our antibodies are manufactured using proprietary techniques which increase the specificity, decrease the background and are compatible with conventional protocols used in laboratories. These antibodies can be used for Western blotting and many have additional application for immunohistochemistry (IHC), immunoprecipitation (IP) and neutralization studies.

- Primary Antibodies and Blocking Peptides.
- Secondary Antibodies, Chromogenic Substrates.
- Fluorescent Protein Ab and Sets, Mounting Media.
- Loading Control Antibodies, Marker Antibodies.
- Tag Antibodies and Phospho-Specific Antibodies.
- Western Blot Kit, Western Blot Control Lysate etc.
- Immunohistochemistry (IHC)/Immunocytochemistry (ICC) Kits.

Antibodies

Phospho-Specific Antibodies

Product Name	Catalog No.	Size
Phospho-Akt Antibody	3257-100	100 µg
Phospho-ATF-2 Antibody	3359-100	100 µg
Phospho-Bad Antibody	3269-100	100 µg
Phospho-BRCA1 Antibody	3674-100	100 µg
Phospho-CaMKII Antibody	3384-100	100 µg
Phospho-beta-Catenin Antibody	3381-100	100 µg
Phospho-Elk-1 Antibody	3388-100	100 µg
Phospho-Erk1/2 Antibody	3441-100	100 µg
Phospho-FoxO4/AFX Antibody	3270-100	100 µg
Phospho-GSK-3a Antibody	3516-100	100 µg
Phospho-GSK-3b Antibody	3495-100	100 µg
Phospho-JKK/SEK1/MKK4 Antibody	3478-100	100 µg
Phospho-c-Jun (Ser73) Antibody	3502-100	100 µg
Phospho-Lck Antibody	3499-100	100 µg
Phospho-MAPKAPK-2 Antibody	3434-100	100 µg
Phospho-MARCKS Antibody	3650-100	100 µl
Phospho-Mek1/2 Antibody	3519-100	100 µl
Phospho-MSK1 Antibody	3278-100	100 µg
Phospho-p38 MAPK Antibody	3438-100	100 µg
Phospho-p53 Antibody	3515-100	100 µg
Phospho-p70 S6 Kinase Antibody	3505-100	100 µg
Phospho-PKC Antibody	3451-100	100 µg
Phospho-Raf Antibody	3504-100	100 µg
Phospho-Stat2 Antibody	3469-100	100 µg
Phospho-Stat3 Antibody	3474-100	100 µg
Phospho-Stat5 Antibody	3475-100	100 µg
Phospho-Stat6 Antibody	3476-100	100 µg
Phospho-Tau Antibody	3550R-100	100 µl
Phospho-TrkA Antibody	3503-100	100 µg
Phospho-Tyrosine Hydroxylase Antibody	3649-100	100 µl



Antibodies

IHC Antibodies

Product Name	Catalog No.	Size
4-1BBL Antibody	5369-100	100 µg
Annexin V Antibody	3357-100	100 µg
Aromatase Antibody	3599-100	100 µg
BAFF-R Antibody	3578R-100	100 µg
BIF Antibody	3704-100	100 µg
BMP-4 Antibody	5674R-100	100 µg
BRCA1 Antibody	3364-100	100 µg
Cathepsin B Antibody	3190-100	100 µg
Cathepsin K Antibody (0.2mg/ml)	3368-100	100 µg
Cathepsin K Antibody (0.5 mg/ml)	3588-100	100 µg
Cathepsin L (Cleaved) Antibody	3741-100	100 µg
Cathepsin S Antibody	3366-100	100 µg
Cathepsin V Antibody (Clone BV55-1)	3411-100	100 µg
CETP Antibody	3413-100	100 µg
ciAP-1 Antibody	3180A-100	100 µg
ciAP-2/HIAP-1 Antibody	3181-100	100 µg
Cox-4 Antibody	3638-100	100 µg
CREB Antibody	3360R-100	100 µg
CTGF Antibody	5553R-100	100 µg
CXCR5 Antibody	3419-100	100 µg
Dystrophin Antibody	3586R-100	100 µg
Fas/Apo1 Antibody	3070R-100	100 µg
GADD153 Antibody	3421-100	100 µg
Galectin-1 Antibody	3596-100	100 µg
Ghrelin Antibody	5990-100	100 µg
HCAM Antibody	3393-100	100 µg
HDAC1 Antibody	3601-100	100 µg
HDAC4 Antibody	3604-100	100 µg
HDAC4 Antibody	3604A-100	100 µg
HDAC5 Antibody	3605-100	100 µg
Hsc70 Antibody	3095-100	100 µg
HSF1 Antibody	3812-100	100 µg
Hsp47 Antibody	3496-100	100 µg

(cont'd on next page)

Antibodies

IHC Antibodies (cont'd)

Product Name	Catalog No.	Size
Hsp90 Antibody	3389-100	100 µg
IL-18 Antibody	5179-100	100 µg
KC Antibody	5211-100	100 µg
LOX-1 Antibody	3659R-100	100 µg
Mcl-1 Antibody	3035-100	100 µg
MMP-3 Antibody	3523-100	100 µg
MMP-3 Antibody	3523R-100	100 µg
MMP-12 Antibody	3732-100	100 µg
MMP-13 Antibody	3533-100	100 µg
NSF Antibody	3541-100	100 µg
PBR Antibody	3044-100	100 µg
PCNA Antibody	3350R-100	100 µg
Perilipin A Antibody	3948-200	200 µg
PLTP Antibody	3595-100	100 µg
Resistin Antibody	5997-100	100 µg
S100A8 Monoclonal Antibody (Clone IMG48M7C7)	6196-100	100 µg
E-Selectin Antibody	3631-100	100 µg
P-Selectin Antibody	3633R-100	100 µg
SGLT-1 Antibody	3711-100	100 µg
SOD-1 Antibody	3458-100	100 µg
Syndecan-1 Antibody	3643R-100	100 µg
Syndecan-4 Antibody	3644-100	100 µg
TFF1 Antibody	5893-100	100 µg
TGF-beta Receptor II Antibody	5639-100	100 µg
TGF-beta Receptor II Antibody	5639R-100	100 µg
Tim-3 Antibody	3808-100	100 µg
TNF-alpha Antibody	3052R-100	100 µg
TNF-R1 Antibody	3125-100	100 µg
TRADD Antibody	3561-100	100 µg
TrkA Antibody	3194-100	100 µg
VEGF Antibody	5363-100	100 µg
VEGF Antibody	5364R-100	100 µg
VEGF Antibody	5365-100	100 µg
VEGF-C Antibody	5633-100	100 µg
VEGF-C Antibody	5633R-100	100 µg



PROTEIN DETECTION

Antibodies

Secondary Antibodies

Product Name	Catalog No.	Size
Anti-Goat IgG, HRP-Linked Antibody	6403-05	500 µl
Anti-Mouse IgG, HRP-Linked Antibody	6402-05	500 µl
Anti-Rabbit IgG, HRP-Linked Antibody	6401-05	500 µl

Mounting Media

Product Name	Catalog No.	Size
FluorLast™ with DABCO	1217-20	20 ml
FluorLast™ with DAPI	1214-20	20 ml
FluorLast™ with DAPI and DABCO	1218-20	20 ml
FluorLast™ Mounting Media	1213-20	20 ml
SuperImmunoHistoMount™	1219-30	30 ml
SuperMOUNT™ Mounting Media	1211-20	20 ml

Controls

Product Name	Catalog No.	Size
Beta-Actin Antibody	3662-100	100 µg
Beta-Actin Antibody	3850-100	100 µg
Biotinylated Bovine Serum Albumin (3 biotin/BSA)	7097-5, -25	5 mg, 25 mg
Biotinylated Bovine Serum Albumin (5 biotin/BSA)	7098-5, -25	5 mg, 25 mg
Biotinylated Bovine Serum Albumin (12 biotin/BSA)	7099-5, -25	5 mg, 25 mg
Cox-4 Antibody	3638-100	100 µg
GAPDH Antibody	3777-100	100 µl
GAPDH Antibody	3777R-100	100 µg
HeLa Nuclear Extract	1641-1	1 mg
Histone H3 Antibody	3623-100	100 µg
Human IgG	1269-100, -1000	100 µg, 1 mg
Jurkat Cell Lysate (Camptothecin-treated)	2402-100	100 µg
Jurkat Cell Lysate (untreated)	2401-100	100 µg
Rabbit IgG	1268-100, -1000	100 µg, 1 mg
Rabbit Serum	1267-1	1 ml
Tubulin Antibody	3708-100	100 µg
VDAC/Porin Antibody	3594-100	100 µg
Yeast Mitochondria (<i>Pichia pastoris</i>)	1111-50, -200	50 µg, 200 µg
Yeast Mitochondria (<i>S. cerevisiae</i>)	1222-50, -200	50 µg, 200 µg

Substrates

Product Name	Catalog No.	Size
ABTS™	1212-100	100 ml
StayBrite™ Highly Stable ATP Bioluminescence Assay Kit	K791-100, -1000	100 assays, 1000 assays
ECL Western Blotting Substrate Kit	K820-50, -500	50 ml, 500 ml
StayBrite™ Highly Stable Luciferase	7901-150	150 µg
StayBrite™ Highly Stable Luciferase/Luciferin Reagent	K790-100, -1000, -10000	100 assays, 1000 assays, 10000 assays
StayBrite™ D-Luciferin, Potassium Salt	7903-100, 1G, -10G	100 mg, 1 g, 10 g
StayBrite™ D-Luciferin, Sodium Salt	7902-100, 1G, -10G	100 mg, 1 g, 10 g
TMB, High Kinetics	1216-100	100 ml
TMB, Ultrasensitive	1215-100	100 ml

Blocking Reagents

Product Name	Catalog No.	Size
EZBlock™ (PBS) Blocking Buffer	2128-200, -1000	200 ml, 1000 ml
EZBlock™ (TBS) Blocking Buffer	2117-200, -1000	200 ml, 1000 ml
EZBlock™ T20 (PBS) Blocking Buffer	2143-200, -1000	200 ml, 1000 ml
EZBlock™ T20 (TBS) Blocking Buffer	2140-200, -1000	200 ml, 1000 ml

Fluorescent Proteins

Product Name	Catalog No.	Size
Blue Fluorescent Protein (BFP)	4994-100, -1000	100 µg, 1 mg
Cyan Fluorescent Protein	4996-100, -1000	100 µg, 1 mg
Enhanced Green Fluorescent Protein (EGFP)	4999-100, -1000	100 µg, 1 mg
Red Fluorescent Protein (dsRed)	4997-100, -1000	100 µg, 1 mg
mCherry Fluorescent Protein	4993-100, -1000	100 µg, 1 mg
Yellow Fluorescent Protein	4998-100, -1000	100 µg, 1 mg
Fluorescent Protein Set	K816-6-100	6x100 µg

Applications:

- Standards for SDS-PAGE.
- Western blot analysis.
- Fluorometer and flow cytometer calibration.
- Fluorescence microscopy.
- Microinjection into cells and tissues.
- Mobility Shift assays.
- In vivo expression and co-localization studies.
- In vitro protein-protein, protein-DNA interaction studies.

Advantages:

- Non-toxic, expressed very efficiently and are significantly bright at levels higher than autofluorescence.
- The FPs do not oligomerize upon co-expression.
- They are photostable for extended times and suitable temperatures.



EGFP



dsRED



YFP



BFP



CFP



mCherry



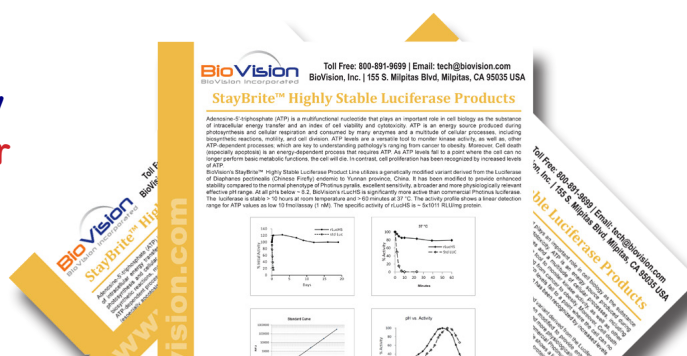
Labeling/Crosslinking Reagents

Crosslinking of proteins to different groups is often used for protein analysis by multiple approaches. Crosslinking reagents are chemical compounds that aid in this covalent attachment to proteins on specific functional groups like primary amines, sulfhydryls, carbohydrates, carboxyls, etc. BioVision offers crosslinking agents which can be used for numerous purposes including:

- Protein Structural and Subunit Analysis.
- Protein Interaction Analysis.
- Protein-Protein Conjugation.
- Solid-Phase Immobilization.
- DNA/RNA Crosslinking to Proteins.
- Producing antibody-protein cross-linked conjugates.
- Creating antibody-enzyme or fluorophore-peptides conjugates.
- Analyzing enzyme activity and protein degradation.

Product Name	Catalog No.	Size
Biotin-HPDP	2329-50, -250	50 mg, 250 mg
Biotin-LC-LC-NHS	2346-50, -250, -1000	50 mg, 250 mg, 1 g
Biotin-LC-NHS	2345-50, -250, -1000	50 mg, 250 mg, 1 g
Biotin-NHS	2347-50, -250, -1000	50 mg, 250 mg, 1 g
BS3 Crosslinker	2327-50, -250, -1000, -1EA	50 mg, 250 mg, 1 g, 1 set (10 x 2 mg)
DTSSP Crosslinker	2337-50, -250	50 mg, 250 mg
N-Hydroxysuccinimide	2331-5G, -25G	5 g, 25 g
SATA	2363-100, -250, -1000	100 mg, 250 mg, 1 g
SPDP Crosslinker	2328-50, -250	50 mg, 250 mg
Sulfo-LC-SPDP	2325-50, -250	50 mg, 250 mg
Sulfo-NHS	2321-500, -5G, -1EA	500 mg, 5 g, 1 set (10 x 2 mg)
Sulfo-NHS-Biotin	2322-50, -250, -1EA	50 mg, 250 mg, 1 set (10 x 1 mg)
Sulfo-NHS-LC-Biotin	2326-50, -100, -1EA	50 mg, 100 mg, 1 set (10 x 1 mg)
Sulfo-NHS-SS-Biotin	2323-50, -100, -1EA	50 mg, 100 mg, 1 set (10 x 1 mg)
Sulfo-SANPAH	2324-50, -250	50 mg, 250 mg
Sulfo-SMCC	2320-50, -100, -1000, -1EA	50 mg, 100 mg, 1 g, 1 set (10 x 2 mg)
Traut's Reagent	2330-500, -1000	500 mg, 1 g

Download the “StayBrite™ Highly Stable Luciferase Products” Flyer from www.biovision.com!

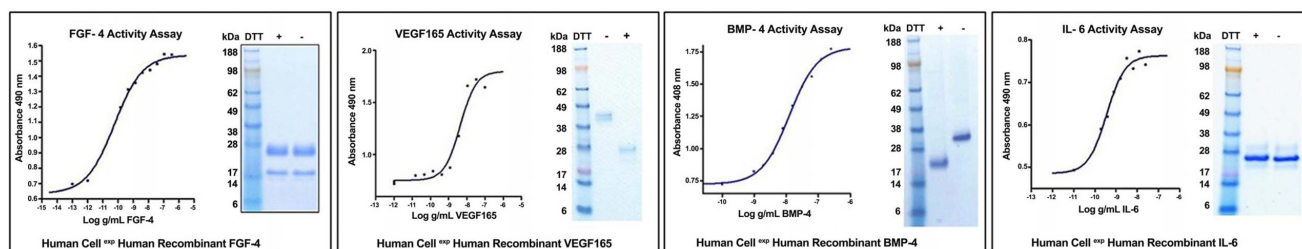


BioVision Introduces Human CellExp™ Proteins

- Contain all the post-translational modifications (affecting activity, function and ½ life) as seen in Human proteins.
- Mimic native Human proteins in terms of sub-unit assembly, folding, secretion and other processes.
- Show the same chemical and biological properties like stability, isoelectric point, solubility, binding affinities and biological activity.
- Produced in serum free medium, hence minimal batch to batch variability and pathogen-free product.
- Applicable for basic and pre-clinical research.

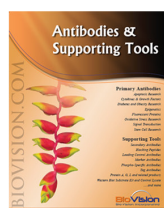
Products include:

Activin A, ADAM12, ADIPOQ /Adiponectin /ACRP30, BAFF, Beta-NGF, BMP-2, BMP-4, BMP-7, C-reactive/CRP, Cathepsin S, CCL6, Cystatin C, DKK-1, DKK3, EGF, EPO, FABP-3, Fetuin A/ASHG, FGF-4, FGF-7 (KGF), FGF-8b, FGF-basic, FLT-3 Ligand, Follistatin, Furin, G-CSF, GAD1, GFER/HPO/ALR, GM-CSF, Granzyme B, HGF, HGH, HMGB1 /HMGI, IFN-alpha 2a, IFN-alpha 2b, IFN-gamma, IL-1 Alpha, IL-1beta, IL-2, IL-3, IL-4, IL-4 Rα, IL-6, IL-6 Rα, IL-7, IL-9, IL-10, IL-12, IL-15, IL-17A, IL-17E, IL-17F, IL-22, IL-23, IL-27, IL-28A, IL-28B, IL-29, IL-34, LEFTY-1, LIF, M-CSF, MMP-1, MMP-2, MMP-9, Noggin, Olfactomedin, Oncostatin M, PCSK9, PDGF-AA, PDGF-BB, PECAM-1, PLGF/PIGF2/PGF, Pro-IGF-II, Progranulin, Renin, sCD14, SCF, sDLL-1, sDLL-4, SERPIN A8, SERPINA1 /A1AT, SHH, SPAM1, TGF-beta 1, TGF-beta 2, TGF-beta 3, Thrombomodulin, TLR-3, TNF-alpha, TPO, UPA, VCAM-1, VEGF 121, VEGF 165, VEGF R1 /Flt-1, VEGF-B, VEGF-C.

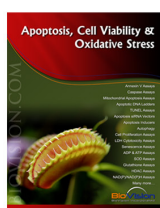


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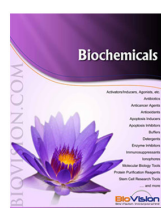
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Antibodies and Supporting Tools



Apoptosis, Cell Viability & Oxidative Stress



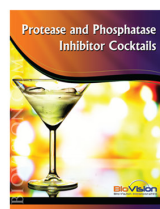
Biochemicals



Cytokines, Growth Factors and Other Recombinant & Natural Proteins



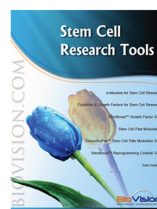
Epigenetics Research Tools



Protease and Phosphatase Inhibitor Cocktails



Metabolism Assay Kits



Stem Cell Research Tools



A

A23187	7
ABTS™	30
Acetic Acid (50 mM)	6
Aclacinomycin A	9
Beta-Actin Antibody	29
AEBSF.HCl	9
Phospho-Akt Antibody	26
Ammonium Sulphate Saturated Solution	15
Anisomycin	7
Annexin V Antibody	27
1X Annexin V Binding Buffer	6
10X Annexin V Binding Buffer	6
Antibody Dilution Buffer	6
Aprotinin	9
Aromatase Antibody	27
ASB-14	7
ASB-16	7
Ascomycin	7
Phospho-ATF-2 Antibody	26
StayBrite™ Highly Stable ATP Bioluminescence Assay Kit	30

B

EZLys™ Bacterial Protein Extraction Reagent	6
Phospho-Bad Antibody	26
BAFF-R Antibody	27
Batimastat (MMP Inhibitor)	9
4-1BBL Antibody	27
ExtraSense™ BCA Protein Assay Kit	23
BCA Protein Assay Kit II	23
BCA Protein Assay Kit (Test Tube)- Reducing Agent Compatible	23
BCA Protein Assay Kit- Reducing Agent Compatible	23
BCA Protein Quantitation Kit	23
Bestatin	9
BFP Antibody	25
BIF Antibody	27
Biotin Assay Kit	23
Biotin-HPDP	31
Biotin-LC-LC-NHS	31
Biotin-LC-NHS	31
Biotin-NHS	31
Biotinylated Bovine Serum Albumin (3 biotin/BSA)	29
Biotinylated Bovine Serum Albumin (5 biotin/BSA)	29
Biotinylated Bovine Serum Albumin (12 biotin/BSA)	29
EZBlock™ (PBS) Blocking Buffer	30
EZBlock™ (TBS) Blocking Buffer	30
EZBlock™ T20 (PBS) Blocking Buffer	30
EZBlock™ T20 (TBS) Blocking Buffer	30
Blue Fluorescent Protein (BFP)	30
BMP-4 Antibody	27
bpV(phen)	8
bpV(pic)	8
BRCA1 Antibody	27
Phospho-BRCA1 Antibody	26
Brefeldin A	7
BS3 Crosslinker	31
BSA (10% in H ₂ O)	6

C

Calpain Inhibitor I, ALLN	9
Calpain Inhibitor II, ALLM	9
Calyculin A	8
Phospho-CaMKII Antibody	26
Phospho-beta-Catenin Antibody	26
Cathepsin B Antibody	27
Cathepsin B and L Inhibitor Z-Phe-Phe-FMK	9
Cathepsin G Inhibitor	9
Cathepsin K Antibody (0.2 mg/ml)	27

Cathepsin K Antibody (0.5 mg/ml)	27
Cathepsin L (Cleaved) Antibody	27
Cathepsin S Antibody	27
Cathepsin V Antibody (Clone BV55-1)	27
CBP-Tag Antibody	24
Celastrol	9
FractionPREP™ Cell Fractionation Kit	12
Cell Lysis Buffer	6
Cell Surface Protein Isolation Kit	12
CETP Antibody	27
CFP Antibody	25
CHAPS, High Purity	7
clAP-1 Antibody	27
clAP-2/HAIP-1 Antibody	27
Cox-4 Antibody	27, 29
CREB Antibody	27
CTGF Antibody	27
CXCR5 Antibody	27
Cyan Fluorescent Protein	30
Cycloheximide	7
Cycloheximide (100 mM)	7
Cyclosporine A	8
Cytosol/Particulate Separation Kit	12

D

Daunorubicin.HCl	7
DiaEasy™ Dialyzer (800 µl) MWCO 1 kDa	14
DiaEasy™ Dialyzer (800 µl) MWCO 3.5 kDa	14
DiaEasy™ Dialyzer (800 µl) MWCO 6-8 kDa	14
DiaEasy™ Dialyzer (3 ml) MWCO 3.5 kDa	14
DiaEasy™ Dialyzer (3 ml) MWCO 6-8 kDa	14
DiaEasy™ Dialyzer (3 ml) MWCO 12-14 kDa	14
DiaEasy™ Dialyzer (3 ml) MWCO 25 kDa	14
DiaEasy™ Dialyzer (3 ml) MWCO 50 kDa	14
DiaEasy™ Dialyzer (10 ml) MWCO 1 kDa	14
DiaEasy™ Dialyzer (10 ml) MWCO 3.5 kDa	14
DiaEasy™ Dialyzer (10 ml) MWCO 6-8 kDa	14
DiaEasy™ Dialyzer (10 ml) MWCO 12-14 kDa	14
DiaEasy™ Dialyzer (15 ml) MWCO 1 kDa	14
DiaEasy™ Dialyzer (15 ml) MWCO 3.5 kDa	14
DiaEasy™ Dialyzer (15 ml) MWCO 6-8 kDa	14
DiaEasy™ Dialyzer (15 ml) MWCO 12-14 kDa	14
DiaEasy™ Dialyzer (20 ml) MWCO 1 kDa	14
DiaEasy™ Dialyzer (20 ml) MWCO 3.5 kDa	14
DiaEasy™ Dialyzer (20 ml) MWCO 6-8 kDa	14
DiaEasy™ Dialyzer (20 ml) MWCO 12-14 kDa	14
DiaEasy™ Dialyzer (250 µl) MWCO 6-8 kDa	14
DiaEasy™ Dialyzer (250 µl) MWCO 12-14 kDa	14
DiaEasy™ Dialyzer (250 µl) MWCO 25 kDa	14
EZSolution™ Digitonin	7
Digitonin, Water-Soluble	7
Dilution Buffer	6
Dodecyl-β-D-maltopyranoside	7
Doxorubicin.HCl	7
DTSSP Crosslinker	31
DTT	6
DYKDDDDK-Tag Antibody	24
DYKDDDDK-Tag Antibody (Clone IE6)	24
Dystrophin Antibody	27

E

E-64	9
ECL Western Blotting Substrate Kit	30
EDTA Solution (pH 8.0)	6
Elastase Inhibitor	9
Elastase Inhibitor, SPCK	9
Phospho-Elk-1 Antibody	26
Epoxomicin	9
Phospho-Erk1/2 Antibody	26

F/G

Fas/Apo1 Antibody	27
Fenbendazole	9
FK-506	8
Fluorescent Protein Antibody Set	25
Fluorescent Protein Set	30
FluorLast™ with DABCO	29
FluorLast™ with DAPI	29
FluorLast™ with DAPI and DABCO	29
FluorLast™ Mounting Media	29
Phospho-FoxO4/AFX Antibody	26
G418 Sulfate	7
GADD153 Antibody	27
Galectin-1 Antibody	27
GAPDH Antibody	29
GAPDH Antibody	29
Geldanamycin	7
GFP Antibody	25
GGACK Dihydrochloride	9
Ghrelin Antibody	27
Glutathione Sepharose	20
Granzyme B Inhibitor Ac-IEPD-CHO	9
Granzyme B Inhibitor Z-AAD-CH ₂ Cl	9
Enhanced Green Fluorescent Protein (EGFP)	30
Phospho-GSK-3α Antibody	26
Phospho-GSK-3β Antibody	26
GST-Tag Antibody	24

H/I

HA-Tag Antibody (Clone 12CA5[2])	24
HCAM Antibody	27
HDAC1 Antibody	27
HDAC1 Immunoprecipitation (IP) and Activity Assay Kit	21
HDAC2 Immunoprecipitation (IP) and Activity Assay Kit	21
HDAC3 Immunoprecipitation (IP) and Activity Assay Kit	21
HDAC4 Antibody	27
HDAC4 Antibody	27
HDAC5 Antibody	27
HeLa Nuclear Extract	29
Heparin Sepharose	21
Heparin Sepharose Column	21
His-Tag Antibody	24
His-Tag Antibody (Clone BV-G020)	24
Histone H3 Antibody	29
Hsc70 Antibody	27
HSF1 Antibody	27
Hsp47 Antibody	27
Hsp90 Antibody	28
Human IgG	29
N-Hydroxysuccinimide	31
Anti-Goat IgG, HRP-Linked Antibody	29
Anti-Mouse IgG, HRP-Linked Antibody	29
Rabbit IgG	29
Anti-Rabbit IgG, HRP-Linked Antibody	29
IL-18 Antibody	28
Imidazole, MegaPure™	6
Immunoprecipitation (IP) Kit	21
Ionomycin (Calcium Salt)	7
Ionomycin (Free Acid)	7
IQ-1	8

J/K/L

Jacalin-Sepharose	17
Phospho-JKK/SEK1/MKK4 Antibody	26
Phospho-c-Jun (Ser73) Antibody	26
Jurkat Cell Lysate (Camptothecin-treated)	29

Jurkat Cell Lysate (untreated)	29
KC Antibody	28
Phospho-Lck Antibody	26
Leupeptin, Hemisulfate (Synthetic)	9
Lithocholic Acid	7
Lopinavir	9
LOX-1 Antibody	28
StayBrite™ Highly Stable Luciferase	30
StayBrite™ Highly Stable Luciferase/Luciferin Reagent	30
StayBrite™ D-Luciferin, Potassium Salt	30
StayBrite™ D-Luciferin, Sodium Salt	30
EZLys™ Lysozyme, Human	7

M

Magnesium Chloride (MgCl ₂)	6
Mammalian Cell Extraction Kit	6
EZLys™ Mammalian Protein Extraction Reagent	6
Phospho-MAPKAPK-2 Antibody	26
Phospho-MARCKS Antibody	26
Marimastat	9
mCherry Antibody	25
mCherry Fluorescent Protein	30
Mcl-1 Antibody	28
Phospho-Mek1/2 Antibody	26
Membrane Protein Extraction Kit	12
MG-115	9
EZSolution™ MG-115	9
MG-132	9
EZSolution™ MG-132	9
Mitochondria DNA Isolation Kit	12
Mitochondria Isolation Kit For Tissue and Cultured Cells	12
Mitochondria Protein IP Kit	21
Mitochondria/Cytosol Fractionation Kit	12
MMP-3 Antibody	28
MMP-3 Antibody	28
MMP-12 Antibody	28
MMP-13 Antibody	28
SuperMOUNT™ Mounting Media	29
Phospho-MSK1 Antibody	26
Myc-Tag Antibody	24

N/O

Nafamostat Mesylate	9
Hi-Bind™ Ni QR Agarose Beads	20
Ready-to-Use Ni QR Agarose Beads Buffer Kit	20
Ni-IDA Spin Columns	20
Ready-to-Use Ni-IDA Spin Purification Kit	20
Nodularin	8
NP-40 (10% in H ₂ O)	7
NP-40 Substitute, MegaPure™ Detergent, 10% Solution	7
NSF Antibody	28
Nuclear/Cytosol Fractionation Kit	12
n-Octyl-β-D-glucopyranoside	7
Okadaic Acid	8
Okadaic Acid, Ammonium Salt	8
Okadaic Acid, Potassium Salt	8
Okadaic Acid, Sodium Salt	8

P

Phospho-p38 MAPK Antibody	26
Phospho-p53 Antibody	26
Phospho-p70 S6 Kinase Antibody	26
P5091	9
PBR Antibody	28
PBS Tablets	6
PBS-Tween® Tablets	6
PCNA Antibody	28
PCNA Antibody	28
Anti-PEG Antibody (Clone 09F02)	24
Anti-PEG Antibody (Clone 26A04)	24



Pepstatin A	9
Perilipin A Antibody	28
EZBlock™ Phosphatase Inhibitor Cocktail I (50X)	8
EZBlock™ Phosphatase Inhibitor Cocktail II	8
EZBlock™ Phosphatase Inhibitor Cocktail III	8
EZBlock™ Phosphatase Inhibitor Cocktail IV	8
Phosphate Buffered Saline (PBS)	6
Phospho-PKC Antibody	26
PLTP Antibody	28
PMSF	9
Potassium Chloride Solution (KCl)	6
PPACK Dihydrochloride	9
EZBlock™ Universal Protease and Phosphatase Inhibitor Cocktail	10
EZBlock™ Universal Protease and Phosphatase Inhibitor Cocktail ,	
EDTA-Free	10
Protease Inhibitor Cocktail	10
EZBlock™ Protease Inhibitor Cocktail II	10
EZBlock™ Protease Inhibitor Cocktail III	10
EZBlock™ Protease Inhibitor Cocktail IV	10
EZBlock™ Protease Inhibitor Cocktail, EDTA-Free	10
Protein A-Agarose	17
Hi-Bind™ Protein A-Agarose	17
Protein A IgG Binding Buffer	17
Protein A IgG Purification Buffer Kit	17
Protein A Magnetic Beads	17
Protein A Sepharose	17
Protein A Sepharose Column	17
Protein A/G Magnetic Beads	17
Protein A/G Sepharose	17
Protein A/G Sepharose Column	17
Protein A/G/L Magnetic Beads	17
Protein A/G/L Sepharose	17
Protein A/G/L Sepharose Column	17
Protein Carbonyl Content Assay Kit	23
Hi-Bind™ Protein G-Agarose	17
Protein G Magnetic Beads	17
Protein G Sepharose	17
Protein G Sepharose Column	17
Protein L Magnetic Beads	17
Protein L Sepharose	17
Protein L Sepharose Column	17
Protein Quantitation Kit	23
PS-341	9
EZSolution™ PS-341	9
Puromycin Dihydrochloride	7
EZSolution™ Puromycin Dihydrochloride	7

R

Rabbit IgG	29
Rabbit Serum	29
Phospho-Raf Antibody	26
2X Reaction Buffer	6
Red Fluorescent Protein (dsRed)	30
Resistin Antibody	28
RFP (dsRed) Antibody	25
RIPA Buffer	6

S

S-Tag Antibody	24
S100A8 Monoclonal Antibody (Clone IMG48M7C7)	28
SATA	31
SBP-Tag Antibody	24
3X SDS-PAGE Loading Buffer	6
SDS Solution (10% in H ₂ O)	6, 7
E-Selectin Antibody	28
P-Selectin Antibody	28
Rabbit Serum	29
SGLT-1 Antibody	28
SOD-1 Antibody	28
Sodium Acetate (NaAc 3 M pH 5.2)	6
Sodium Chloride Solution (NaCl)	6
SPDP Crosslinker	31

EZ-Desalt™ Spin Desalting Columns	15
Phospho-Stat2 Antibody	26
Phospho-Stat3 Antibody	26
Phospho-Stat5 Antibody	26
Phospho-Stat6 Antibody	26
Strep-Tag II Antibody	24
Streptavidin-Sepharose	20
Sulfo-LC-SPDP	31
Sulfo-NHS	31
Sulfo-NHS-Biotin	31
Sulfo-NHS-LC-Biotin	31
Sulfo-NHS-SS-Biotin	31
Sulfo-SANPAH	31
Sulfo-SMCC	31
Sulfobetaine 3-16	7
SuperImmunoHistoMount™	29
Syndecan-1 Antibody	28
Syndecan-4 Antibody	28

T

T7 Epitope -Tag Antibody	24
Phospho-Tau Antibody	26
Phospho-Tau Antibody	26
TCEP.HCl	6
TFF1 Antibody	28
TGF-beta Receptor II Antibody	28
TGF-beta Receptor II Antibody	28
Thapsigargin	7
Tim-3 Antibody	28
EZLys™ Tissue Protein Extraction Reagent	6
TMB, High Kinetics	30
TMB, Ultrasensitive	30
TNF-alpha Antibody	28
TNF-R1 Antibody	28
TRADD Antibody	28
Traut's Reagent	31
Tris-HCl (pH 6.8)	6
Tris-HCl (pH 8.8; 1M)	6
Tris-HCl (pH 8.8; 1.5M)	6
Triton® X-100 Solution (10% in H ₂ O)	7
Triton® X-100, MegaPure™ Detergent, 10% Solution	7
Triton® X-114, MegaPure™ Detergent, 10% Solution	7
TrkA Antibody	28
Phospho-TrkA Antibody	26
Tubulin Antibody	29
Tween® 20 Solution (10% in H ₂ O)	7
Tween® 20, MegaPure™ Detergent, 10% Solution	7
Tween® 80, MegaPure™ Detergent, 10% Solution	7
Phospho-Tyrosine Hydroxylase Antibody	26

V

V5-Tag	24
VDAC/Porin Antibody	29
VEGF Antibody	28
VEGF Antibody	28
VEGF Antibody	28
VEGF Antibody	28
VEGF-C Antibody	28
VEGF-C Antibody	28
Vicriviroc Malate	9

Y

Yeast Mitochondria (<i>Pichia pastoris</i>)	29
Yeast Mitochondria (<i>S. cerevisiae</i>)	29
Yeast Mitochondria Isolation Kit	11
Yeast Nuclei Isolation Kit	11
EZLys™ Yeast Protein Extraction Reagent	6
Yellow Fluorescent Protein	30
YFP Antibody	25



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