For Current Prices: See the Website
Protein Extraction
Protein Purification
Protein Analysis
Homo & Heterobifunctional Linkers
flexARM™ (dPEG) Linkers
Electrophoresis Tools
Mass Spectrometry

proteomics
Protein Extraction

**Cellbuster™-A** (Animal proteinXtraction)
- An efficient cell lysis medium for animal cells for preparation of total cellular proteins.
- Cell lysis facilitated by combination of proprietary detergent mixture.
- The kit contains enough reagents for 50 medium scale cultures.
- Includes 2M DTT & Protease inhibitor cocktail.

<table>
<thead>
<tr>
<th>Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>506152</td>
<td>1 Kit</td>
<td>$148.00</td>
</tr>
</tbody>
</table>

**Cellbuster™-B** (Bacterial proteinXtraction)
- Most efficient cell lysis medium for bacterial cells and preparation of total cellular proteins.
- Efficient cell lysis facilitated by a combination of lysozyme & proprietary detergent mixture.
- Enough reagent for 50 medium scale cultures.

<table>
<thead>
<tr>
<th>Code</th>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>506150</td>
<td>1 Kit</td>
<td>$128.00</td>
</tr>
</tbody>
</table>

**DissolveAway™** (Inclusion bodies solubilization)
- For solubilization of inclusion bodies in protein expression studies involving bacteria.
- Minimizes denaturation of proteins.
- Increase efficiency & yield of your recombinant protein.
- Use of FoamFree™ (cat #543100) is recommended in large preparations.

<table>
<thead>
<tr>
<th>Code</th>
<th>Volume</th>
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</tr>
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<tbody>
<tr>
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<tr>
<td>506141</td>
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</table>

**Omni™ Homogenizer**
- Includes Omni TH Homogenizer, Omni Tip™ adapter, 12 Omni Tip™ probes, convenient storage and accessory case.

<table>
<thead>
<tr>
<th>Code</th>
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</table>

For more homogenizers visit: www.bio-world.com

**Proteomax™ Protein Extraction Systems**

**Proteomax MP**
- For fractionation of highly enriched membrane proteins using a single step phase partition.
- Membrane proteins are extracted with an efficiency greater than 90% with minimal cross-contamination from hydrophilic proteins.
- Increases spot resolution for 2-D gels.

<table>
<thead>
<tr>
<th>Code</th>
<th>Quantity</th>
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</tr>
</thead>
<tbody>
<tr>
<td>515937</td>
<td>50 preps</td>
<td>$195.00</td>
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</tbody>
</table>

**Proteomax T**
- Broad-spectrum total protein sample preparation kit.
- Extraction kit targeted for all proteins from animal cells including soluble & membrane proteins.
- Contains buffers to solubilize difficult proteins.

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
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<tr>
<td>515924</td>
<td>100 preps</td>
<td>$149.00</td>
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</table>
**PerfectFocus™-Protein Kits**

**Perfect-Focus™ 2-D Gel Prep Kit**
- Designed to clean & concentrate protein samples prior to running IEF/2-D gels.
- Process is a simple wash & collection that yields a sample essentially free from non-protein agents.
- Removes interfering agents such as detergents, salts, lipids, natural products, reductants, alkylation agents & EDTA.
- Includes protein solubilization reagents ready for IEF application.
- Sufficient for 50 preps.

**#515940 | 1 Kit | $ 149.25**

**Protein Master Strategy™**
- The Protein Master is a kit designed to simplify protein purification and optimization procedures.
- The kit guides the researcher step-by-step through various protein purification techniques, which include various protein precipitation-fractionation and chromatography techniques.
- Supplied with all reagents needed to test various purification techniques.
- No expensive equipment is needed.

**#078515 | 1 Kit | $ 295.00**

**Cytoplasmic/Nuclear Protein Extraction Kit**
- Fractionation of cytoplasmic & nuclear proteins.
- Supplied with a strong chaotropic extraction buffer to solubilize both cytoplasmic as well as nuclear proteins for 2-D gel analysis.

**#515936 | 50 preps | $ 185.00**

**Soluble & Insoluble Protein Kit**
- Allows selective preparation of soluble (hydrophilic) proteins & insoluble (hydrophobic) proteins.
- The soluble & insoluble proteins may be further fractionated.
- Store Perfect-FOCUS™ kit at room temperature.
- Kit contains: all reagents necessary for protein fractionation.

**#515935 | 1 Kit | $ 185.00**

**Protein Alkylation Kit**
- Ultrapure grade lodoacetamide
- Simply add appropriate amount of reagent solution for alkylation of SH-groups in proteins.
- Minimizing re-oxidation of the competing thiol pairs.

**#506176 | 1 Kit | $ 74.40**

**Signal Protein Extraction Kit**
- For fractionation of caveolin-enriched membrane proteins, proteins rich in cholesterol, glycolipids, GTP-binding & GPI linked proteins & protein molecules involved in directing intracellular membrane traffic.

**#515938 | 50 preps | $ 126.30**

**Protein Reduction/Alkylation Kit**
- Works over a wide pH range including lower acidic pH.
- Reduces disulfide bonds in less than 5 minutes at room temperature.
- Use of the TCEP reductant is compatible with the alkylation reaction of the SH-groups for 2-D gel analysis.

**#506174 | 100 preps | $ 75.40**

**Protein Reduction Kit**
- Ultrapure grade lodoacetamide
- Simply add appropriate amount of reagent solution for alkylation of SH-groups in proteins.
- Minimizing re-oxidation of the competing thiol pairs.

**#506172 | 100 preps | $ 75.40**

**Protein Alkylation Kit**
- Ultrapure grade lodoacetamide
- Simply add appropriate amount of reagent solution for alkylation of SH-groups in proteins.
- Minimizing re-oxidation of the competing thiol pairs.

**#506176 | 1 Kit | $ 74.40**

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- For fractionation of caveolin-enriched membrane proteins, proteins rich in cholesterol, glycolipids, GTP-binding & GPI linked proteins & protein molecules involved in directing intracellular membrane traffic.

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- Works over a wide pH range including lower acidic pH.
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**#506174 | 100 preps | $ 75.40**

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- Ultrapure grade lodoacetamide
- Simply add appropriate amount of reagent solution for alkylation of SH-groups in proteins.
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- Ultrapure grade lodoacetamide
- Simply add appropriate amount of reagent solution for alkylation of SH-groups in proteins.
- Minimizing re-oxidation of the competing thiol pairs.
Protease Inhibitors

**FoamFree™**
- Free-flowing dry powder specifically developed for controlling foam in various biotechnology applications.
- Prevents foaming during sonication or homogenization of cells & tissues for protein extraction, hybridization solutions during rocking & shaking & during fermentation of bacterial or yeast cultures.
- Inert, non-toxic & non-metabolizable. Does not interfere with enzyme activity or assays.

**Protein Extraction Kits**
- MF: C15H27N5O5
- Soluble in DMSO
- An irreversible inhibitor of cysteine protease like papain, calpain and cathepsin B, H, and S.

**E-64**
- MF: C23H43H1O2HCl
- A competitive inhibitor of aminopeptidases, especially aminopeptidase B, leucine aminopeptidase and tripeptide aminopeptidase.
- Not an inhibitor of carboxypeptidases.

**BioDetergents**
- Six detergents with different properties for solubilization of membrane proteins.
- Contains: 10g CAPS, CHES, Deoxycholic Acid, 0.5g CHAPS, CHAPSO & N-Octyl-Glucopyranoside.

**Detergent-Out® Kit, DTG-100X**
- Simple, high performance method for removing free detergents from protein solutions without significant loss or dilution.
- Simply load the protein solution on the Detergent-Out® column & spin. Detergent is retained by the column & the protein solution is eluted & collected in a small volume.
- Designed for the removal of non-ionic detergents such as Triton-X100, NP-40, Tween & Sodium Deoxicholate.
- Applications: 10 (each can be up to 2ml of protein solution)

**Protein Inhibitors**

**Antipain Dihydrochloride**
- MF: C16H24N2O4
- A competitive inhibitor of aminopeptidases, especially aminopeptidase B, leucine aminopeptidase and tripeptide aminopeptidase.
- Not an inhibitor of carboxypeptidases.

**Bestatin**
- MF: C16H24N2O4
- A competitive inhibitor of aminopeptidases, especially aminopeptidase B, leucine aminopeptidase and tripeptide aminopeptidase.
- Not an inhibitor of carboxypeptidases.

**Chymostatin**
- MF: C31H41N7O6
- A competitive inhibitor of aminopeptidases, especially aminopeptidase B, leucine aminopeptidase and tripeptide aminopeptidase.
- Also inhibits papain and many other cysteine proteases.

**E-64**
- MF: C16H24N2O4
- Soluble in DMSO
- An irreversible inhibitor of cysteine protease like papain, calpain and cathepsin B, H, and S.

**Pepstatin A**
- MF: C34H63N5O9
- Soluble in DMSO, MeOH
- An aspartic acid protease inhibitor of pepsin, renin and cathepsin D.
- Also an inhibitor of the HIV protease.
**1,10-Phenanthroline**

- MF: C_{12}H_{8}N_{2}O
- A metalloprotease inhibitor useful for chelating iron and other divalent metals.
- Store at room temperature

<table>
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<tr>
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<th>Price</th>
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<tr>
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<tr>
<td>711006</td>
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<td>$ 117.00</td>
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**Trypsin Inhibitor, Soybean**

- Activity: 87,000 BAEE Units/mg protein
- Soluble in H_{2}O
- A serine protease inhibitor specific for trypsin and trypsin-like proteases

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<tr>
<th>#</th>
<th>Mass</th>
<th>Price</th>
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</thead>
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<tr>
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</tr>
<tr>
<td>711011</td>
<td>10g</td>
<td>$ 358.13</td>
</tr>
</tbody>
</table>

**PMSF (Phenylmethyl sulfonyl fluoride)**

- MF: C_{6}H_{5}CH_{2}SO_{2}F
- MW: 174.19
- CAS: 329-989-6
- Purity: >99.0%
- Most commonly used protease inhibitor.
- Dissolve in isopropanol to make 100mm stock.
- Store in desk at 70ºC use 1mM.

<table>
<thead>
<tr>
<th>#</th>
<th>Mass</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>705619</td>
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<tr>
<td>705621</td>
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<td>$ 96.60</td>
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</table>

**Protease Inhibitor Cocktail I**

- Supplied as 100X solution
- Benzamadine
- Phenanthroline
- Aprotinin
- Pepstatin
- Leupeptine

<table>
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<tr>
<th>#</th>
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<tbody>
<tr>
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<tr>
<td>508089</td>
<td>100 x 1ml</td>
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**Protease Inhibitor Cocktail II**

- Supplied as 100X solution
- AEBSF
- E-64
- Bestatin
- Leupeptin
- Pepstatin

<table>
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<tr>
<th>#</th>
<th>Volume</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>508091</td>
<td>100 x 5ml</td>
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<tr>
<td>508092</td>
<td>100 x 1ml</td>
<td>$ 31.00</td>
</tr>
</tbody>
</table>

**FOCUS™ - PhosphoRich**

- Ready to use kit allows enrichment of phosphorylated proteins.
- It also provides a simple way to isolate phosphopeptides from complex samples.
- The kit contains resin filled spin columns with binding capacity – 20mg of phosphorylated ovalbumin per column.

<table>
<thead>
<tr>
<th>#</th>
<th>Units</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>078514</td>
<td>1 Kit</td>
<td>$295.00</td>
</tr>
</tbody>
</table>

**Glycoprotein Isolation (GPI™) Kit**

- The Con A Kit is easy to use and contains all of the necessary components for isolation of most N-linked glycans.
- Con A Sepharose: 2ml settled resin supplied as a 50% slurry in buffer
- Binding/Wash Buffer: 10ml of a 5x stock solution
- Elution Buffer: 5ml
- Column Accessories Pack: 10 spin columns with bottom caps and 20 collection tubes

<table>
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<th>Description</th>
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<tbody>
<tr>
<td>515554</td>
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### Proteins

<table>
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<td><strong>G-10</strong></td>
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<td><strong>G-50</strong></td>
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<td><strong>bioZorbant™</strong></td>
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<tr>
<td><strong>Column Protein Concentrator Kit</strong></td>
<td>#078512</td>
<td>1 kit</td>
<td>$78.50</td>
</tr>
</tbody>
</table>

### Key Features

**Protein Concentrator™ Kit**
- Dilute protein solution (1µg/mL) can be quantitatively precipitated by using the Universal Protein Precipitation reagent followed by solubilization and centrifugation through a gel filtration spin column (provided).
- Protein precipitation is not affected by the presence of detergents, chaotrophic or other common laboratory reagents.
- Method involves mixing protein solution with UPPA reagents, which quantitatively precipitate protein.
- Suitable for concentrating protein for running gels, raising antibodies, protein purification, protein assays & other applications.
- Not suitable for those proteins which may lose their biological activity when precipitated.

**Dextropore™ Desalting Columns**
- Specifically designed to effectively separate proteins, complex carbohydrates & nucleic acids from smaller molecules like peptides, nucleotides, labels & salts. (Similar to Sephadex™)
- Kit includes: 100 columns Dextropore™ (frit attached), collection tubes, 2 racks of 200µl tips, 1 rack of 1000µl tips and Dextropore™.

**Column Protein Concentrator Kit**
- Suitable for larger volumes of dilute protein solution.
- This Kit has been specifically developed for concentration of those proteins that cannot be concentrated either by precipitation or other techniques.
- Binds and immobilizes any protein in a low salt buffer between pH 3-10 (capacity ~ 0.5mg protein/ml Protein Binding Resin).
- The immobilized protein is spin-eluted in a small volume of specifically formulated elution buffer, giving several fold effective concentration.
- Will concentrate a total of 4mg protein in either single or multiple procedures.
- The kit is supplied with a proprietary spin column that may be regenerated and re-used once.
- Recovery ~ 80%
Proteomics

Protein Kits

Empty Chromatography Columns

- Appropriate columns for protein fractionation, affinity chromatography, desalting and other procedures are necessary for proteomic studies.
- bioWorld offers a variety of analytical columns, 50/pack.

A. Capped 0.8ml
   #042015 A $ 45.00
B. Uncapped 0.8ml
   #042016 B $ 39.00
C. With collection tubes
   #042017 C $ 47.00
D. Spin column 0.5ml
   #042018 D $ 49.00
E. Capped 3ml column
   #042019 E $ 69.00

For more columns visit: www.bio-world.com

E-Z Protein Stabilizer™

- E-Z Stabilizer is a cocktail of 4 ingredients, each of which adds stability to purified enzyme/protein & increases storage time while maintaining enzyme activity.
- Supplied as a 10X solution.
- Storage: 2-8°C

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<table>
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<tr>
<td></td>
<td>#543110</td>
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<tr>
<td></td>
<td>#543111</td>
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Colloidal Gold for Protein Assays

- Fast, sensitive assay ideal for accurately detecting nanogram quantities of protein in solution.
- Capitalizes on the affinity of protein to colloidal gold creating a stable color, with maximum absorbance at 595nm.
- Protein quantities can be extrapolated from the BSA standard curve, which is linear in the 5-200ng range.
- Auraquant™ is about 30% more sensitive than Quantigold™.
- Quick & Easy: One-Step, One-Solution assay, can be completed in 30 minutes.
- Stable, accurate results readable up to 24 hours following completion.
- Requires only minimal amounts of protein samples.
- Materials required: Distilled/deionized water, micropipettes, 1.5ml clear microfuge tubes & disposable 1.0ml micro-assay cuvettes.
- Microplate format can be adopted
- Stable for at least 6 months at 4°C. Do not freeze.

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<tr>
<td>Auraquant™</td>
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<tr>
<td>Quantigold™</td>
<td>#515525</td>
<td>250ml</td>
<td>$ 117.00</td>
</tr>
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CB-Protein Assay™

- Coomassie dye-based protein assay provides simple, rapid estimation of protein concentration & can be performed using as little as 1mg protein per sample.
- Supplied ready-to-use with an easy to follow protocol that does not require pre-filtering or dilution.
- Simply mix the protein solution with CB-Protein Dye & read optical density 5 minutes later at 595 nm
- Compatible with reducing agents.
- This assay is contradicted if the protein solution contains a high concentration of detergents.
- Kit comes with Albumin Standard (2mg/ml)

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<tbody>
<tr>
<td></td>
<td>#542320</td>
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</table>

For more columns visit: www.bio-world.com
**Non-Interfering™ Protein Assay**

- Simple to follow protein assay overcomes interference of agents commonly present in protein solutions & shows no protein-to-protein variation.
- Non-Interfering Protein Assay has been extensively tested to work in the presence of reducing agents, chelating agents, detergents, amines & numerous other agents. Not affected even if the protein is in strong extraction buffers.
- Universal Protein Precipitating Agent (UPPA) removes interfering agents from protein solutions.
- Any protein modifications (glycosylation, etc.) or the presence of normally interfering compounds do not affect this protein assay - you get reliable results every time from different samples.
- Simple protocol yields excellent results in as little as 15 minutes.
- For less than 1.5ml cuvettes, scale all reagents down.
- Components: 2ml assay tubes, disposable cuvettes, Albumin protein standard.

**BCA Protein Assays**

- A simple and sensitive colorimetric assay for the determination of protein concentration
- Comes with two solutions plus a protein standard
- The concentration dependent reaction reduces a blue color that is read at 562nm.
- Compatible with many common buffers and detergents.
- Can be used with both tubes and microplates.
- Sufficient for 500 samples

**Bradford Protein Assay**

- Bradford Method utilizes Coomassie Brilliant Blue G-250 dye binding to an unknown protein & forming a complex that can be detected spectrophotometrically at 595nm.
- Method of choice for protein quantitation.
- Designed to quantitate 1 to 10µg/ml protein but can be scaled up to quantitate 10 to 100µg/ml simply by increasing the volume of the dye generating a standard curve in the 10 to 100µg/ml range.
- Includes BSA standard 10mg/ml, 2ml

**Protein Standards**

**Bovine Serum Albumin**
- Concentration: 2mg/ml
- Prepared in saline buffer
- Used as a standard in protein assays

**Ovalbumin**
- 2mg/ml concentration

**Gamma Globulin**
- 2mg/ml concentration
- Used as standard in protein assays

**Accelerate: protein purification**
Dotmetric™ Protein Assay

- Sensitive, economical & takes only 10 minutes.
- Requires as little as 1µL of sample & has the sensitivity to detect as little as 0.5ng (BSA) protein.
- Determine protein concentration by measuring the diameter of the protein spot with the dotMetric gauge supplied with each kit.
- No protein to protein variation.
- Uniquely tolerant of detergents and other common laboratory agents.
- Resistant to Triton-X 100, TWEEN-20, NP -40, SDS, reducing agents such as β-mercaptoethanol, DTT, Sugars, EDTA, Tris, Urea & Guanidine-HCl.
- Can be used even if the protein is in SDS-PAGE gel loading buffer.
- Suitable for Gel Loading Samples (SDS-PAGE), Total Cellular Protein & Crude Extract Cellular Fractions, Chromatography and Purification Extracts.
- Each kit is supplied with the necessary reagents & test strips for assaying up to 300 samples.
- Highly reliable (+/- 5%) determination of protein concentration.

<table>
<thead>
<tr>
<th>Product</th>
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<tbody>
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<td>Protein Kit w/ Tips &amp; Board</td>
<td>#51553</td>
<td>1 Kit</td>
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</table>

FoldRight™ Kit

- Designed to optimize protein folding procedures.
- Based on a proprietary combination of denaturing agents for solubilization of inclusion bodies and the foldright protocol based on rapid dilution of denatured protein into folding mixes.
- Folding mixes are based on proven folding agents Polyethylene Glycol, Cyclodextrine, ND SB-201 detergent, and Ox-Re agents (oxidizing-reducing agents).
- FoldRight™ kit offers a simple-to-follow protocol to quickly optimize folding protocol for proteins.
- See also Osmocons™ (below).

<table>
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<th>Product</th>
<th>Code</th>
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<tr>
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<td>#543400</td>
<td>1 Kit</td>
<td>$247.00</td>
</tr>
</tbody>
</table>

OsmoCons™ Protein Folding Facilitators

- A clear understanding of the energetics of osmolyte induced protein folding/unfolding has recently been established (Auton & Bolen, 2005 PNAS 102: 15065).
- bioWorld offers a set of Osmocons™, well-recognized osmolytes to assist in solvent-dependent cooperative protein folding and free energy changes.
- Kit Contains:
  - 1M TMAO, 25ml
  - 1M Sorbitol, 25ml
  - 1M Sarcosine, 25ml
  - 1M Proline, 25ml
  - All reagents are filter sterilized

<table>
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<tr>
<td></td>
<td>#078523</td>
<td>100ml</td>
<td>$43.00</td>
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Dotmetric™ Protein Assay

- Sensitive, economical & takes only 10 minutes.
- Requires as little as 1µL of sample & has the sensitivity to detect as little as 0.5ng (BSA) protein.
- Determine protein concentration by measuring the diameter of the protein spot with the dotMetric gauge supplied with each kit.
- No protein to protein variation.
- Uniquely tolerant of detergents and other common laboratory agents.
- Resistant to Triton-X 100, TWEEN-20, NP -40, SDS, reducing agents such as β-mercaptoethanol, DTT, Sugars, EDTA, Tris, Urea & Guanidine-HCl.
- Can be used even if the protein is in SDS-PAGE gel loading buffer.
- Suitable for Gel Loading Samples (SDS-PAGE), Total Cellular Protein & Crude Extract Cellular Fractions, Chromatography and Purification Extracts.
- Each kit is supplied with the necessary reagents & test strips for assaying up to 300 samples.
- Highly reliable (+/- 5%) determination of protein concentration.

<table>
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<tr>
<th>Product</th>
<th>Code</th>
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<th>Price</th>
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<tr>
<td></td>
<td>#078523</td>
<td>100ml</td>
<td>$43.00</td>
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**Sarcosine (N-Methylamino-acetic or N-Methylglycine)**

- MF: C₃H₇NO₂
- MW: 89.09
- CAS: 107-97-1
- 1M Sterile
- Facilitates protein folding

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**Sorbitol**

- MF: C₆H₁₄O₆
- MW: 182.17
- CAS: 50-70-4
- 1M Sterile

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<td>#078519</td>
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**Urea (8M)**

- MF: CH₄N₂O
- CAS: 57-13-6
- MW: 60.06
- Solubilizes proteins by denaturation

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<tr>
<td>#705831</td>
<td>500ml</td>
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**Trypsin-Digestion Mix**

- For efficient digestion of proteins with trypsin.
- TPCK modified Mass-Spec. grade
- Used with In-Gel Protein Digestion Kit

<table>
<thead>
<tr>
<th>#</th>
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<tbody>
<tr>
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**Proteomics Protein Controls**

- Protein preparations specifically prepared for producing 2-D gels as controls for standardizing electrophoresis.
- Protein preparations are reduced & SH-groups substantially blocked by alkylation.
- Free from reductants, alkylation agents & other common laboratory agents.
- Low conductivity
- Supplied as dry protein pellets in ready to use form, simply rehydrate pellets in an appropriate buffer.

<table>
<thead>
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<th></th>
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<td>E.coli</td>
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<td>Plant (Arabidopsis)</td>
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<td>Standard Set (all 4)</td>
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**In-Gel™ Protein Digestion**

- Excise/remove protein spots/bands & wash in SilverOUT™ to remove silver ions followed by incubation in our proprietary Trypsin-Digestion Mix which ensures efficient protein digestion.
- Digested peptides are extracted with Pep-Extract, a high diffusion peptide extraction buffer.
- Supplied with sufficient reagents for extraction of 100 protein bands.

<table>
<thead>
<tr>
<th>#</th>
<th>100 preps</th>
<th>Price</th>
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<tbody>
<tr>
<td>#515946</td>
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<td>$109.80</td>
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Protein Kits

Antigen:Antibody Dissociators

**Acidic Dissociator, pH 2.5**
- Includes Elution and Neutralize buffers. Just add predetermined quantity to elution buffer to neutralize antibodies and prevent denaturation. Also includes

<table>
<thead>
<tr>
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<th>Quantity</th>
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<tbody>
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<td>#650161</td>
<td>1 Kit</td>
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**Neutral Dissociator, pH 7.0**
- To dissociate your antigen-antibody complex in a column at neutral pH.
- Dialyze to desalt after dissociating (under non-denaturing conditions) with neutral dissociator.

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<tbody>
<tr>
<td>#650160</td>
<td>50ml</td>
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HisTalon™ Affinity Purification Kit

- Polyclonal antibodies (Rabbit) against poly-Histidine are immobilized on Sepharose™ to prepare a column for purification of His-tagged proteins using affinity chromatography.
- Bound protein can be eluted using denaturing or non-denaturing conditions.
- Contains poly-His antibody bound Sepharose™, column & elution buffers (Denaturing and non-denaturing elutions).

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<thead>
<tr>
<th>Product Code</th>
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<tbody>
<tr>
<td>#600059</td>
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HisTalon™ HRP-C

- Nickel-NTA horseradish peroxidase (HRP) enzyme conjugate binds directly to the His-Tag protein and is detected using chromogenic substrates, saving a significant amount of time in Western Blot analyses.

<table>
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<tr>
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<tr>
<td>#600051</td>
<td>10 blots</td>
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HisTalon™ HRP-L

- Nickel-NTA horseradish peroxidase (HRP) enzyme conjugate directly binds to the His-Tag protein and is detected using intense chemiluminescence enhancing signal, saving a significant amount of time in Western Blot analyses.

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<tr>
<td>#600050</td>
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</table>

HisTalon™ AP-C

- Nickel-NTA alkaline phosphatase (AP) enzyme conjugate binds directly to the His-Tag protein and is detected using chromogenic substrates, saving a significant amount of time in Western Blot analyses.

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<tbody>
<tr>
<td>#600049</td>
<td>10 blots</td>
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QuantaLite™

- Up to 10-fold more sensitive than ECL Plus.
- High performance blocking agent and substrate included in the kit, enable detection of low-abundance proteins.
- Ideal for use in situations where the primary antibody is in short supply or expensive to produce.
- Easy-to-use protocol similar to ECL and ECL Plus.
- Compatible with nitrocellulose and PVDF membranes, as well as both film and CCD imaging methods.

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<td>#500617</td>
<td>1 Kit</td>
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Quick Immuno Detect™ Kit

- For rapid detection of antigens in any purification protocol, apply 1µL of sample to the strips provided, allow the strips to react with your primary (rabbit) antibody for 5 minutes, then apply the Quick-Immuno-Detect reagent provided & watch for the developing color change.
- Kit contains sufficient reagents to detect 500, 1µL aliquots of antigen in any sample without the interference of salts & buffers.

<table>
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<tbody>
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<td>#506151</td>
<td>1 Kit</td>
<td>$78.60</td>
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Western Stripper™

- Remove antibodies from a western blot and reprobe the same blot with a second antibody.
- Contains Ab stripping buffer and neutralizer for reprobing.
- Not effective with chromogenic substances.

<table>
<thead>
<tr>
<th>Product Code</th>
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<tbody>
<tr>
<td>#650100</td>
<td>1 kit</td>
<td>$64.00</td>
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</table>
**QuantaLeap™ Signal Amplification System**

- This kit provides a flexible-octantennary PEG linking agent with terminal active groups for the attachment of bio-molecules of your choice. This can be used for the conjugation of multiple enzymes such as peroxidase or alkaline phosphatase to ligand. Or, for creating multiple antigen complexes as immunogens. It is also useful for enhanced presentation of a ligand on a chromatographic support to create highly efficient ligand attached bio-affinity matrix via a flexible linker.
- Sufficient for 10 reactions

**FireTag™-AP Conjugation Kit**

- FireTag-AP Conjugation Kit enables antibody or protein labeling with alkaline phosphatase (AP) in less than 3 hours, saving you several hours over standard maleimide/thiol methods. AP is supplied ready-to-use, preactivated and requires no activation or purification. Sufficient reagents are provided to conjugate 3 samples, each containing up to 0.1 mg of antibody or protein.
- Contains:
  Modified AP, SFB Linker and AP Conjugation Buffer (5X).
- FireTag-AP is also available as a stand-alone reagent. Cat# 600046

**FireTag™-HRP Conjugation Kit**

- FireTag-HRP Conjugation Kit is based on well-established periodate chemistry, yielding consistent and reproducible protein conjugates. This kit contains all reagents required to conjugate your protein or antibody, including buffers and activated HRP and requires no activation or purification. Sufficient reagents are provided to conjugate 6 samples, each containing up to 0.1 mg of antibody or protein.
- Modified HRP, SFB Linker and AP Conjugation Buffer (5X).
- FireTag-Activated HRP is also available as a stand-alone reagent. See catalog # 600048

**Novel Conjugation & Signal Amplifiers**

- Conjugation of SANH and SFB Modified BioMolecules
Intense ChemiLuminescence (ICL™) Kit for Western Blots

ICL Western Blot kit is a two-component substrate that contains a stable luminal solution with an enhancer and a stable peroxide solution.

- Longer light emission - strong light emission over a working day allows you to make several exposures
- Picogram sensitivity - highly sensitive for the rapid development of a wide range of protein levels

Kit contains:
- Luminol/Enhancer, 250 ml
- Stable Peroxide Buffer, 250 ml

Intense Chemiluminescence (ICL™) Kit for ELISA

For greater sensitivity in ELISAs or any other solution-based assay use ICL (intense chemiluminescent) substrate. ELISAs can take place in either a test tube or a microplate and are quantified by measuring relative light units (RLU) in a luminometer. ICL substrate was developed for researchers who need high sensitivity at an economical price.

- Immediate light generation - intense signal is produced immediately at room temperature
- High signal:noise ratio - minimal background
- Low picogram sensitivity
- Room temperature storage - a consistent product with ambient shipping and no need to store at 4°C
- Consistent performance of the working solution over an 8-hour period
- Flexible - signal can be read in black or white opaque plates
- Emits light at 425 nm

Includes:
- Luminol/Enhancer Solution 50 ml
- Stable Peroxide Buffer 50 ml

Prionex, BSA Alternative

- Used as a protein stabilizer, blocking agent, protectant and excipient.
- Prionex is freely soluble in water, dilute electrolyte solutions, glycerol, DMSO, and ethanol at concentrations below 75% and ammonium sulfate solutions below 20% saturation.

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<tr>
<td>#705102</td>
<td>100ml</td>
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NAP-Blocker™

A new non-animal blocking protein preparation for immuno-assays. For improved assay sensitivity, clean background, and a high signal-to-background ratio, bioWorld has developed NAP-Blocker™ - a blocking agent containing non-animal proteins. Because NAP-Blocker™ is a non-animal protein you can be absolutely sure that there is no cross reaction with your animal source antigens, or primary and secondary antibodies. NAP-BLOCK-ERTM is free from biotin and other cross-reacting agents present in animal source blocking agents. NAP-Blocker™ ensures uniform blocking without nonspecific binding. Simple to use and better results than milk powder preparations.

<table>
<thead>
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<tr>
<td>#462157</td>
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<tr>
<td>#462158</td>
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</table>

For ready protein blots
visit: www.bio-world.com
Heterobifunctional Crosslinkers

SANH and SBF Linkers

SANH and SFB (succinimidyl 4-formylbenzoate) will modify proteins by incorporating hydrazine and benzaldehyde moieties, respectively, in a single step. The alkyl hydrazone protecting group on SANH readily hydrolyzes in acidic or neutral pH (4.5-7.4) and the liberated hydrazine moiety reacts with the aldehyde modified biomolecules to produce stable hydrazone conjugates (see below). Unlike the classical maleimido/thiol linkers, proteins modified with either hydrazines or aldehydes are very stable for months.

SFB Linker

• SFB (succinimidyl 4-formylbenzoate) is a heterobifunctional crosslinker used to modify amine-containing biomolecules or surfaces to directly incorporate benzaldehyde moieties.

SANH Linker

• SANH (succinimidyl 6-hydrazinonicotinamide acetone hydrazone) is heterobifunctional crosslinker used to modify amine-containing biomolecules or surfaces to directly incorporate 2-hydrazinopyridine moieties.

EMCH (e-Maleimidocaproic acid hydrazide)

• MF: C_{10}H_{15}N_{3}O_{3}*CF_{3}CO_{2}H
• MW: 339.27
• MP: 104-105°C
• Spacer length: 11.8 Å
• Sulphhydryl and carbonyl reactive heterobifunctional crosslinking agent
• Useful for preparing immunoconjugates of doxorubicin
• Storage: 0-4°C

MBS1 (m-Maleimidocaproic N-hydroxsuccinimide)

• MF: C_{15}H_{16}N_{2}O_{6}
• MW: 314.25
• CAS: 58626-38-3
• MP: 175-177°C
• Spacer length: 9.9 Å
• Sulphhydryl and amino reactive heterobifunctional protein crosslinking agent.
• Storage: 0-4°C

Sulfo-SMCC (Sultosuccinimidyl 4-[N-maleimidomethyl] cyclohexane-1-carboxylate)

• MF: C_{16}H_{17}N_{2}O_{5}SNa
• MW: 436.37
• CAS: 92921-24-9
• MP: 175-177°C
• Spacer length: 9.9 Å
• Sulphhydryl and amino reactive heterobifunctional protein crosslinking agent.
• Storage: 0-4°C

(See page 39 for more details)
**Protein Linkers**

**Sulfo-SIAB** (N-Sulfo succinimidyl[4-iodoacetyl]aminobenzoate)
- MF: C_{13}H_{10}N_{2}O_{8}Na
- MW: 504.20
- CAS: 58626-38-3
- MP: 175-177°C
- Spacer length: 9.9Å
- Sulfhydryl and amino reactive heterobifunctional protein crosslinking agent.
- Water soluble analog of SIAB

**Sulfo-DST** (Disuccinimidyl tartarate)
- MW: 584.3
- Primary amine reactive
- Water soluble
- Periodate cleavable

**Sulfo-BSOCOES**
- Bis[2-(Sulfo succinimidooxycarbonyloxy)ethyl] Sulfone
- MW: 640.5
- Primary amine reactive
- Water soluble and base cleavable

**Homobifunctional Crosslinkers**

**DTBP** (3,3'-dithiobis-propionimidate HCl)
- MW: 309.28
- Cleavable, bifunctional imidoester crosslinker
- Water soluble

**Sulfo-EGS** [Ethylene glycol bis (sulfo succinimidylsuccinate)]
- MW: 660.45
- Water soluble and cleavable
- Amine reactive

**DTSSP** [3,3'-dithiobis-(sulfo succinimidyl propionate)]
- MW: 608.5
- Primary amine reactive
- Water soluble
- Cleavable by disulfide reduction.

**flexArm™ (dPEG) Linkers**
- flexArm™ is a discrete size polyethylene glycol spacer which is hydrophilic.

**flexArm™ NHS-(dPEG)_4 - Biotin**
- Adds aspecial arm for rapid and tight avidin/streptavidin binding.
- dPEG™ spacer is non-immunogenic.
- Ultra high purity
- Reactivity: amine
- Solubility: high water soluble
- Spacer Length: 19.2 Å
- MW: 588.67
- Single molecule

**flexArm™ Linkers**

- Adds aspecial arm for rapid and tight avidin/streptavidin binding.
- dPEG™ spacer is non-immunogenic.
- Ultra high purity
- Reactivity: amine

**flexArm™ NHS-(dPEG)_4 - Biotin**
- Solubility: high water soluble
- Spacer Length: 19.2 Å
- MW: 588.67
- Single molecule

**enhance solubility of your peptide/protein by using flexARM™ linkers.**
Proteomics

Protein Linkers

- Hydrophilic (water soluble) and non-immunogenic spacer.
- Spacer may reduce or eliminate problems with aggregation and immunogenicity.
- Hydrophilic dPEG™ spacer is non-immunogenic.
- Reactivity I: amine

**flexArm™ MAL-(dPEG)_{4} NHS ester**

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</tr>
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<tr>
<td>#789249</td>
<td>1g</td>
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</table>

- Reactivity II: sulfhydryl/thiol
- Spacer Length: 24.8 Å
- Spacer Length (atoms): 22
- MW: 513.50

**flexArm™ Amino-(dPEG) acid**

- Unprotected amino acid for those who prefer the potential simplicity of removing one less protecting group.
- Introduce into peptides and related compounds to increase water solubility to reduce or eliminate aggregation problems.
- Hydrophilic dPEG™ spacer is non-immunogenic.

**flexArm™ MAL-(dPEG)_{12} NHS ester**

<table>
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<th>Product Code</th>
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<tr>
<td>#789251</td>
<td>1g</td>
<td>$1245.00</td>
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- Solubility: water soluble; also very soluble in various organic solvents including DMAC and methylene chloride.
- Spacer Length: 53.3 Å
- Spacer Length (atoms): 46
- MW: 265.30

**flexArm™ N-Fmoc-amido-(dPEG)_{4} acid**

- N-Fmoc protected spacer for peptide synthesis.
- Introduce into peptides to increase water solubility and to reduce or eliminate aggregation problems.
- Hydrophilic dPEG™ spacer is non-immunogenic.

<table>
<thead>
<tr>
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<td>#789258</td>
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- Solubility: water soluble
- Spacer Length: 19.2 Å
- Spacer Length (atoms): 17
- MW: 487.54
- Single molecule

**flexArm™ Amino-(dPEG)_{8} acid**

Same as # 789252 but with longer spacer
- Length 32.2 Å
- Atoms 28

<table>
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<td>1g</td>
<td>$1245.00</td>
</tr>
</tbody>
</table>

- MW: 441.51
- Single molecule

For protocols visit: www.bio-world.com
**flexArm™ N-Fmoc-amido-(dPEG)_8 - acid**

- N-Fmoc protected spacer for peptide synthesis.
- Introduce into peptides to increase water solubility and to reduce or eliminate aggregation problems.
- Hydrophilic dPEG™ spacer is non-immunogenic.
- Ultra high purity.
- Reactivity: amino using carbodiimide

<table>
<thead>
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<th></th>
<th>100mg</th>
<th>1g</th>
<th>Price</th>
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- Solubility: water soluble; also soluble in various organic solvents including DMAC and methylene chloride.
- Spacer Length: 32.2 Å
- Spacer Length (atoms): 28
- MW: 663.75
- Single molecule

**flexArm™ N-Fmoc-amido-(dPEG)_{12} - acid**

- Protected spacer for peptide synthesis.
- Introduce into peptide to increase water solubility and to reduce or eliminate aggregation problems.
- Hydrophilic dPEG™ spacer is non-immunogenic.
- Ultra high purity.
- Reactivity: amino

<table>
<thead>
<tr>
<th></th>
<th>100mg</th>
<th>1g</th>
<th>Price</th>
</tr>
</thead>
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<tr>
<td>#789262</td>
<td>$995.00</td>
<td>$995.00</td>
<td></td>
</tr>
</tbody>
</table>

- Solubility: water soluble; also soluble in various organic solvents including DMAC and methylene chloride.
- Spacer Length: 46.5 Å
- Spacer Length (atoms): 40
- MW: 839.96
- Single molecule

**flexArm™ NHS-m-(dPEG)_{12}**

- Enables discrete MW pegylation to almost 100g/mol
- Produces compounds with increased water solubility and reduced aggregation, or produces surfaces with reduced non-specific binding.
- Produces stable amide bonds
- Hydrophilic dPEG™ spacer is non-immunogenic.

<table>
<thead>
<tr>
<th></th>
<th>100mg</th>
<th>500mg</th>
<th>Price</th>
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</thead>
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<tr>
<td>#789266</td>
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</tr>
</tbody>
</table>

- High purity.
- Reactivity: amine
- Spacer Length: 44.0 Å
- Spacer Length (atoms): 38
- MW: 685.75
- Single molecule

**flexArm™ NHS-m-(dPEG)_{4}**

- Enables low MW pegylation of small molecule, drugs and related compounds.
- Increase water solubility and reduced aggregation, or produces surfaces with reduced non-specific binding.
- Produces stable amide bonds
- Hydrophilic dPEG™ spacer is non-immunogenic.

<table>
<thead>
<tr>
<th></th>
<th>100mg</th>
<th>500mg</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>#789263</td>
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<tr>
<td>#789267</td>
<td>$170.00</td>
<td>$995.00</td>
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</tbody>
</table>

- Ultra high purity.
- Reactivity: amine
- Spacer Length: 15.6 Å
- Spacer Length (atoms): 14
- MW: 333.33
- Single molecule
## GeBAflex-Tube™

### Mini Dialysis
- GeBAflex-Tube™ defines the next generation technology in dialysis of small-volume samples based on a single-use tube.
- Removal of Ethidium bromide, Urea & detergents.
- Minimum sample size: 50µl
- Volume Range: 10-250µl
- Molecular Weight cut off: 3500, 6000-8000 & 12000-14000 Da
- Purity: Protease, RNase, DNase & PCR free
- Membrane: Ultra-clean, sulfur & heavy metal free, EDTA treated
- Single use unit, single step process, no need for cleaning or autoclaving.
- **Kit includes:** GeBAflex-tubes, Floating Rack, Handbook

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Quantity</th>
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### Midi Dialysis
- Volume Range: 50-800µl
- **(see Mini Dialysis for info.)**

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### Maxi Dialysis
- Volume Range: 100-3000µl
- **(see Mini Dialysis for info.)**

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### Midi Electroelution
- Volume Range: 50-800µl
- Gel size: 0.5 x 1.0cm
- **Kit includes:** Floating Rack, Supporting Tray, 10/20ml TCA, 5ml MS buffer, 5ml KAC buffer, Handbook
- **(see Mini Full Kit for info.)**

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### Maxi Kits
- **Kit includes:** GeBAflex-tube™ 5/15, Supporting Tray, Handbook
- **(see Mini Full Kit for info.)**
- No buffers included

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## Mini Full Kit
- Extraction of DNA, in vitro transcribed SRNA, protein DNA & protein RNA from agarose or polyacrylamide gels for cloning or sequence analysis.
- Extraction of RNA from polyacrylamide gel for structure analysis, splicing & other biology experiments.
- Will fit in most electro elution units available.
- RNase, DNase & PCR product free
- Single use unit, single step process.
- Membrane: Sulfur & heavy metal free
- **Kit includes:** Floating Rack, Supporting Tray, 2.5/7.5ml TCA, 250/750ml MS buffer, 300/900ml KAC buffer, Handbook

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## Midi Full Kit
- **Kit includes:** Floating Rack, Supporting Tray, 10/20ml TCA, 5ml MS buffer, 5ml KAC buffer, Handbook
- **(see Mini Full Kit for info.)**

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</table>
bioPAGE PreCast Polyacrylamide Gels

- Variety of gradients to provide a wide range of flexibility.
- 10 gels per box, 10 wells per gel
- 4% stacking layers with preformed wells.
- 4 month shelf life from manufacture date
- 100% reproducibility
- Tris Glycine buffer gel

<table>
<thead>
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<td>12%</td>
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<tr>
<td>4-20%</td>
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<td>8-16%</td>
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<tr>
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<tr>
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<td>8-16%</td>
<td>#743125</td>
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Acrylamide Starter Kit

- For protein gel electrophoresis.
- Biotechnology Grade.
- Contains: Acryl/Bis 37.5:1 (40%) 100ml, Ammonium Persulfate 25g, TEMED 25ml, TG-SDS 10X Buffer 2 pk. Sufficient for 50 mini gels
- Storage: 4°C
- Save time, enhance productivity

For more details visit: www.bio-world.com
omniPAGE Maxi System

- omniPAGE Maxi combines ease of use features with high resolution separations.
- Ultra soft silicone seals guarantees trouble free glass plate loading and gel casting.
- Set includes: 2 pack of notched glass plates, 2 pack of regular glass plates with bonded 1mm spacers, 1 dummy plate, 2 pack of 24 well combs (1mm thick), 1 casting base and casting mat, 1 cooling rack and 1 set of cables.
- Plate dimensions: 20cm x 20cm
- Gel dimensions: 16cm x 17.5cm (W x L)
- Buffer volume: Minimum: 1200 ml; Maximum: 5600 ml

#031360 | 1 set $ 696.00

True Blue Protein Markers

- Electrophoresis protein standards provide the sharpest, most uniform bands on the market.
- Offers prestained low, mid & high molecular weight range kits with distinctly blue bands that yield a reliable & constant PAGE pattern.
- Each protein is custom stained & calibrated to eliminate any frustrating anomalous mobility.
- Presolubilized with one year shelf life.

Low Range kit
- Includes: Insulin, Aprotinin, Lysozyme, Tripsin Inhibitor, & Carbonic Anhydrase.

#743000 | 500µL $ 114.15

Mid Range kit
- Includes: Cytochrome C (12,512 daltons), Lactate Dehydrogenase (36KDa), Beta-Lactoglobulin (184KDa), Carbonic Anhydrase (29KDa), Ovalbumin (43KDa), Glutamate Dehydrogenase (55KDa), Phosphorylase b (95KDa).

#743001 | 500ML $ 123.50

High Range Kit
- Includes: Myosin (205kDa), Phosphorylase (97.4kDa), Bovine Serum Albumin (68kDa), Ovalbumin (43kDa), Carbonic Anhydrase (29kDa), Beta-Lactoglobulin (18.4kDa), & Lysozyme (14.4kDa).

#743004 | 500ML $ 130.00

Gel Drying Frames and Films

Complete Gel Drying Systems

#408503 15 x15cm $ 59.60

#408501 24 x24cm $ 98.70

- Bio Gel-Drying System allows fast drying of gels because both sides can be exposed to air. The frame can be placed in an incubator up to 50°C for even faster drying.
- Supplied with 2 sets of frames and a plate with 50 gel drying membranes. The system allows fast drying of a single gel or normal drying of two gels at one time.
- Eight side clips also included.
- Ideal for drying mini gels.

Standing Gel Drying Frames

#251500 6" x 6" $ 14.50

- Vertical stand designed for rapid economical drying of electrophoresis gels. Inexpensive but effective system is ideal for easy drying of gels and for teaching laboratories.
- Use Crack Free Solution (catalog #409504) to prevent cracking of gel during drying.

Flat Gel Drying Frames

#251502 6" x 6" $ 12.70

#251501 7" x 9.5" $ 19.50

#251503 9.5" x 12" $ 25.00

#408504 24cmx24cm $ 26.50

- Designed for rapid economical drying of electrophoresis gels. Inexpensive but effective system is ideal for the occasional users and teaching laboratories.
- Supplied as one pair of frames and one flat sheet.

Gel Drying Films

#408497 5.5" x 5.5" $ 17.60

#408502 7" x 9" $ 28.50

#408500 10" x 12" $ 32.67

- This item is part of the gel drying system (Cat# 408501 and 408503) that allows gels to dry quickly and easily between two sheets of cellophane without the use of expensive heat/vacuum gel dryers.
- 50 sheets of pre-cut cellophane.

Gel Drying Systems

Stumbling Block: We need to make sure the gels are not dried too quickly or too slowly. This can affect the results of the electrophoresis. Therefore, it is important to choose a system that provides the right drying conditions.

Wearing gloves is highly recommended when handling kit contents.
Gel Plate Drying Rack

- A sturdy, A-shaped rack that holds 12 glass electrophoresis plates vertically for quick drying and convenient access.
- Can also hold Gel Drying Frames and Ready Gels Cassettes.

| #220721 | 1 rack | $27.00 |

Ponceau S

- MF: C_{22}H_{12}N_{4}Na_{4}O_{13}S_{4}
- MW: 760.58
- Protein Stain

| #705844 | 50G | $26.88 |
| #705845 | 100G | $42.00 |

Coomassie Brilliant Blue G-250

- CAS 3104-58-1
- MW 854.04
- Protein electrophoresis dye used in SDS-PAGE.
- Also used for protein concentration determination by Bradford method.
- Ultra Pure Grade.
- Storage: RT

| #742073 | 10g | $17.85 |
| #742077 | 25g | $34.65 |
| #742081 | 50g | $63.00 |

Quick Reversible Stain

- A single step, 5-minutes protocol for staining protein in SDS-Page gels.
- Based on copper ions and produces colorless images of a band against a semi-opaque background.
- This stain has greater sensitivity than Coomassie Blue.
- Ideally suited for transfer or elution protocols where fixing of the protein bands is not required.
- The kit contains reagents for 25 mini gels.

| #742850 | 25 mini gels | $110.00 |

Now

Express Coomassie Stain

- Express Coomassie Stain detects as little as 15ng of protein and gives complete band detection within 50 minutes.
- Ideal for densitometry and able to be stained with silver.
- This stain can be used more than once.
- Express Coomassie is a colloidal suspension of Coomassie Blue that preferentially binds to protein and eliminates the unwanted destaining step.

R-250

| #742830 | 100ml | $69.50 |

G-250

| #742831 | 100ml | $69.50 |

SeeBand™ Protein Stain

- Blue Straining gel similar to Coomassie staining for protein gel electrophoresis.
- Allows electro elution of a desired protein with high recovery yield.
- No denaturative material affecting the protein during staining.
- Guarantees protein staining in polyacrylamide gels with only slight fixation of the protein to the gel.
- No need for multi-step washing.
- Washing uses water only.
- Storage at 4°C. Shelf life 12 months.

| #742060 | 500ml | $30.00 |
**RAPIDstain™**

An ultra sensitive and ready-to-use protein stain based on Coomassie dye. No mixing or preparation is involved. No fixation step is needed. Simply pour RAPIDstain™ on your gel, and bands develop within 5-10 minutes and reaches a maximum visibility in 60 minutes. You can monitor the bands developing directly in the staining tray.

- Only stains protein, leaving a crystal clear background resulting in high and visibility. The gels require no destaining. The protein band intensity is enhanced by simply rinsing with water.
- Has the sensitivity to detect as little as 4-8 ng BSA. Staining shows a linear response for densitometric gel analysis and produces sharp scanning or photographic results.
- Avoids the use of methanol, acetic acid, or other toxic agents.
- Works with native PAGE, SDS-PAGE, Iso electric focusing, or 2D gels.

<table>
<thead>
<tr>
<th></th>
<th>#462155 500ml</th>
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<tbody>
<tr>
<td></td>
<td>#462156 1L</td>
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**FASTsilver™**

- Detects proteins and nucleic acids fractionated by PAGE, FASTSilver™ is a unique formulation designed to leave the background exceptionally clear and produce sharp images of protein and nucleic acid bands.
- 100 times more sensitive than Coomassie Blue and 10 times more sensitive than Ethidium bromide, FASTSilver™ detects as little as 1ng protein or nucleic acids in 60 minutes.
- The kit contains regents for 25 mini gels and comes with an easy to follow protocol.
- Kit components: 125 ml Silver Stain, 75g Developer (mixed powder), 4ml Sensitizer-I, 4ml Sensitizer-II.

**SilverOUT™ Destainer**

- For destaining & removal of silver ions.
- *Used with In-Gel Protein Digestion Kit (catalog #515946)*

**Enhanced Silver™**

- Silver staining kit with increased sensitivity.
- One kit stains 25 mini gels
- Kit Contains:
  - Silver solution
  - Sensitizer
  - Developer
  - Stop solution
  - Destainer A
  - Destainer B

New
Protein Stains

**Mass Silver™**
- Mass Silver is a stain that is compatible with Mass Spectrometry.
- Our glutaraldehyde-free formulation provides the sub-nanogram sensitivity that you would expect from a silver stain while allowing for trypsin digestion required for mass spectrometry procedures.

**Mass Silver™**

**Crack Free™ Gel Drying Kit**
- A unique system of cellophane sheets and solution regulate the water release from the gel to ensure a crack-free gel of up to 20% polyacrylamide.
- Gel drying is useful for fluorography, densitometry, autoradiography, and storage.
- Contents will dry 20 mini gels.
- Gel can be native or denatured.
- Kit includes solution, cellophane sheets, and drying rack.

**FemtoLucent™** (Chemiluminescent detection system for Western Blots)
- Based on an innovative formulation of isoluminol, supersensitive detection and washing buffers and AB-horseradish peroxidase (HRP) conjugates. The femtoLucent™ immunodetection system is able to detect extremely low concentrations of antigens.
- Supplied with a novel blocking agent, BLOT-QuickBlocker™, which allows a rapid blocking step and produces a clear background.
- Includes detection reagents, detection and washing buffers, BLOT-QuickBlocker™ to perform detection on 5,000 cm membrane.
- A choice of conjugates and other reagents gives users the option to customize the system to precisely match their Western blotting requirements.

**Yariv’s Reagent**
- Stain binds specifically to arabinogalactans in plant and microbial cells.
- Can stain gels and cells.

**Glycoprotein Staining Kit**
- Incorporates the proven Schiff’s reagent and method.
- One kit contains enough reagents to stain 25 mini gels
- Kit Contains:
  - Oxidation Reagent
  - Reduction Reagent
  - Schiff’s Reagent
  - Glycoprotein Standard

**Accelerate: protein visualization**
**BioTRAP™ (Total Removal of Abundant Proteins)**

Our immunoaffinity columns will remove many of the abundant proteins in serum that interfere with proteomics analysis. These include albumin, transferrin, haptoglobin, alpha-1-antitrypsin, and many of the immunoglobulins. By removing these proteins, the remaining serum can be concentrated, making detection of low abundance proteins easier. These columns are available packed with Sepharose. We also provide columns for the removal of any one of these proteins, or a custom mixture of depletion supports. Kit includes serum diluent, binding/wash buffer, and column regeneration solution.

Gravity/spin columns with 0.5ml Sepharose-bound Abs

<table>
<thead>
<tr>
<th>Description</th>
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bioTrap Multiple Affinity Removal System is comprised of an individual peak column packed with polymeric support for HPLC instruments to remove six interfering high-abundant proteins (albumin, IgG, IgA, transferrin, haptoglobin, and antitrypsin) from human serum.

**Single Tissue Protein Blots**

Ready to screen protein blots from different species

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<tr>
<td>Human Pancreas</td>
<td>#542208</td>
<td>2 blots</td>
<td>$ 198.00</td>
</tr>
<tr>
<td>Human Spleen</td>
<td>#542209</td>
<td>2 blots</td>
<td>$ 198.00</td>
</tr>
<tr>
<td>Human Testis</td>
<td>#542210</td>
<td>2 blots</td>
<td>$ 198.00</td>
</tr>
<tr>
<td>Human Ovary</td>
<td>#542211</td>
<td>2 blots</td>
<td>$ 198.00</td>
</tr>
<tr>
<td>Rat Brain</td>
<td>#542212</td>
<td>2 blots</td>
<td>$ 198.00</td>
</tr>
<tr>
<td>Rat Kidney</td>
<td>#542213</td>
<td>2 blots</td>
<td>$ 198.00</td>
</tr>
</tbody>
</table>

**Multiple Tissue Protein Blots**

Choice of liver, lung, kidney, testies, ovary, pancrease, heart and spleen

<table>
<thead>
<tr>
<th>Description</th>
<th>cat. #</th>
<th>well</th>
<th>price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human</td>
<td>#542250</td>
<td>2 blots</td>
<td>$ 232.25</td>
</tr>
<tr>
<td>Mouse</td>
<td>#542252</td>
<td>2 blots</td>
<td>$ 468.65</td>
</tr>
<tr>
<td>Rat</td>
<td>#542254</td>
<td>2 blots</td>
<td>$ 468.65</td>
</tr>
</tbody>
</table>

**proteinpurification made easy**

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