• Protein Estimation Assays
  • Apoptosis Assays
  • Cytotoxicity Assays
  • SAM Methyltransferase Assays
  • Protease Assays
  • Phosphatase Assays
  • Peroxide Assay
• Lysis Buffers & Systems
  • Protein Fractionation Kits
  • Dialysis (Micro) System
  • Electrophoresis Clean-Up
  • Concentration Systems
  • Contamination Removal

• Protease Inhibitor Cocktails
  • Individual Protease Inhibitors
  • Protease Assays
  • Proteases for Mass Spec.
  • Sequencing Grade Proteases
• Proteomic Grade Detergents
  • Research Grade Detergents
  • Non-Ionic, Ionic & Zwitterionic
  • Detergent Estimations
  • Detergent Removal Systems

• Gel Preparation Chemicals
  • Protein Marker Ladders
  • Electrophoresis Buffers
  • Reducing & Alkylation Reagents
  • Protein Gel Stains
• 1-Hour Western System
  • Transfer Buffers & Membranes
  • Membrane Stains
  • Blocking Buffers
  • Secondary Antibodies
  • Detection Reagents
  • Reprobing Reagents

• Protein Sample Preparation
  • Protein Clean-Up Systems
  • Electrophoresis Reagents
  • Mass Spec Grade Protease
  • InGel Digestion Kits
• Affinity Resins
  • 6X His Protein Purification Kits
  • GST Protein Purification Kits
  • Antibody Purification
  • Activated Resins
  • Buffers & Reagents

• Biotin Labeling
  • Cell Surface Protein Labeling
  • Agarose Coupling Kits
  • Fluorescent Dye Labeling Kits
  • Enzyme Labeling Systems
• Carrier Proteins
  • Peptide Coupling Systems
  • Antibody Purification Resins
  • Antibody Fragmentation Kits

• Coated Plates
  • Blocking Buffers
  • Wash Buffers
  • Secondary Antibodies
  • Detection Reagents
  • Antibody Labeling Systems
• Homobifunctional
  • Heterobifunctional
  • Optimizer Systems
  • Cross-Linking Systems

• DNA Isolation
  • Transformation & Screening
  • Polymerase Chain Reaction
  • Agarose Electrophoresis
  • RNA Isolation
  • Yeast Transformation
• Apoptosis Assays
  • Cytotoxicity Assays
  • SAM Methyltransferase Assays
  • Protease Assays
  • Phosphatase Assays
  • Peroxide Assay
  • ELISA
Total protein lysates from various species, including tumor tissue lysates

G-Biosciences has assembled a large collection of rare and hard to obtain tissue samples and cells that cover a wide spectrum of animal and plant kingdoms. The tissue samples include human, primate, rabbit, pig, rat, mouse, frog, fish, bird, earthworm, bacteria, yeast and various plant tissues. These tissue resources are offered to the research community as tools for protein discovery tasks. We offer these resources as total protein lysates or as premade Western blots, both one and two dimensional blots.

GenLysate™ total protein lysates are prepared in a lysis buffer containing a complete protease inhibitor cocktail to inhibit proteolysis. Each lysate lot is tested by electrophoresis and Western blot analysis.

The GenLysate™ are offered as 150μg lyophilized protein per vial and, following reconstitution in DI water, are ready for use.

The following sections list the GenLysate™ by the organ the lysate was prepared from. The mammalian section includes normal tissue lysates and their respective tumor tissues. The tissues available are summarized below:

1. Mammalian
   a. Brain
   b. Breast
   c. Cervix
   d. Colon
   e. Esophagus
   f. Eye
   g. Heart
   h. Hypopharynx (Laryngopharynx)
   i. Kidney
   j. Liver
   k. Lung
   l. Ovary
   m. Pancreas
   n. Prostate
   o. Rectum
   p. Skeletal Muscle
   q. Skin
   r. Spinal Cord
   s. Spleen
   t. Stomach
   u. Testis
   v. Thyroid
   w. Uterus
2. Human Tumor Tissues
3. Plant
4. Bacteria
5. Insect
6. Bird
7. Frog
8. Fish
9. Opossum
10. Worm
11. Yeast

### MAMMALIAN GENLYSATE™

A range of whole and region-specific total protein lysates from human, mouse, rat, macque, rabbit, pig and other mammalian tissues

### Brain Lysates

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<th>Region</th>
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### Breast Lysates

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### Cervix Lysates

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### Colon Muscle Lysates

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### Esophagus Lysate

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### Eye Lysates

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### Heart Lysates

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### Rectum Lysates

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### Skin Lysates

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### Spinal Cord Lysates

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### Spleen Lysates

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### Testis Lysates

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<td>Whole</td>
<td>Human</td>
<td>Normal</td>
</tr>
<tr>
<td>TLH-11</td>
<td>Whole</td>
<td>Human</td>
<td>Tumor</td>
</tr>
</tbody>
</table>

## HUMAN TUMOR TISSUE GENLYSATE™

A selection of tumor lysates are available and are listed below with their comparative normal tissue. The history of the tissue is available upon request.
### BACTERIAL GENLYSATE™
**A range of whole and region-specific total protein**

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Species</th>
<th>Region</th>
<th>Tissue Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ML-09</td>
<td>E. coli</td>
<td>Whole</td>
<td>Normal</td>
</tr>
</tbody>
</table>

### BIRD GENLYSATE™
**A range of whole and region-specific total protein**

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Species</th>
<th>Region</th>
<th>Tissue Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLC-01</td>
<td>Chicken</td>
<td>Liver</td>
<td>Normal</td>
</tr>
<tr>
<td>NLC-03</td>
<td>Chicken</td>
<td>Lung</td>
<td>Normal</td>
</tr>
<tr>
<td>NLC-08</td>
<td>Chicken</td>
<td>Heart</td>
<td>Normal</td>
</tr>
</tbody>
</table>

### FISH GENLYSATE™
**A range of whole and region-specific total protein**

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Species</th>
<th>Region</th>
<th>Tissue Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ML-02</td>
<td>Trout, Salmo trutta trutta</td>
<td>Liver</td>
<td>Normal</td>
</tr>
</tbody>
</table>

### FROG GENLYSATE™
**A range of whole and region-specific total protein**

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Species</th>
<th>Region</th>
<th>Tissue Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ML-04</td>
<td>Frog</td>
<td>Liver</td>
<td>Normal</td>
</tr>
</tbody>
</table>

### INSECT GENLYSATE™
**A range of whole and region-specific total protein**

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Species</th>
<th>Region</th>
<th>Tissue Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ML-01</td>
<td>Drosophila melanogaster</td>
<td>Whole</td>
<td>Normal</td>
</tr>
</tbody>
</table>

### MARSUPIAL GENLYSATE™
**A range of whole and region-specific total protein**

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Species</th>
<th>Region</th>
<th>Tissue Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLO-01</td>
<td>Opossum</td>
<td>Liver</td>
<td>Normal</td>
</tr>
<tr>
<td>NLO-03</td>
<td>Opossum</td>
<td>Lung</td>
<td>Normal</td>
</tr>
<tr>
<td>NLO-04</td>
<td>Opossum</td>
<td>Kidney</td>
<td>Normal</td>
</tr>
<tr>
<td>NLO-05</td>
<td>Opossum</td>
<td>Spleen</td>
<td>Normal</td>
</tr>
<tr>
<td>NLO-08</td>
<td>Opossum</td>
<td>Heart</td>
<td>Normal</td>
</tr>
<tr>
<td>NLO-09</td>
<td>Opossum</td>
<td>Pancreas</td>
<td>Normal</td>
</tr>
<tr>
<td>NLO-21</td>
<td>Opossum</td>
<td>Skeletal muscle</td>
<td>Normal</td>
</tr>
</tbody>
</table>

### PLANT RELATED GENLYSATE™
**A range of whole and region-specific total protein lysates from bird, marsupial, insect, plant, yeast, bacterial, fish, worm and frog tissues**

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Species</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL-01</td>
<td>Green Algae</td>
<td>Whole Plant</td>
</tr>
<tr>
<td>PL-03</td>
<td>Barley</td>
<td>Whole Plant</td>
</tr>
<tr>
<td>PL-04</td>
<td>Rye Grass</td>
<td>Whole Plant</td>
</tr>
<tr>
<td>PL-05</td>
<td>Oat</td>
<td>Whole Plant</td>
</tr>
<tr>
<td>PL-07</td>
<td>Wheat</td>
<td>Whole Plant</td>
</tr>
<tr>
<td>PL-08</td>
<td>Soy</td>
<td>Whole Plant</td>
</tr>
<tr>
<td>PL-09</td>
<td>Mung</td>
<td>Whole Plant</td>
</tr>
<tr>
<td>PL-10</td>
<td>Sunflower</td>
<td>Whole Plant</td>
</tr>
<tr>
<td>PL-11</td>
<td>Cotton</td>
<td>Whole Plant</td>
</tr>
<tr>
<td>PL-12</td>
<td>Beet</td>
<td>Whole Plant</td>
</tr>
<tr>
<td>PL-13</td>
<td>Tomato</td>
<td>Whole Plant</td>
</tr>
<tr>
<td>PL-14</td>
<td>Spinach</td>
<td>Whole Plant</td>
</tr>
<tr>
<td>PL-15</td>
<td>Arabidopsis thaliana</td>
<td>Whole Plant</td>
</tr>
</tbody>
</table>

### WORM GENLYSATE™
**A range of whole and region-specific total protein**

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Species</th>
<th>Region</th>
<th>Tissue Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ML-08</td>
<td>Earthworm</td>
<td>Whole</td>
<td>Normal</td>
</tr>
</tbody>
</table>

### YEAST GENLYSATE™
**A range of whole and region-specific total protein**

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Species</th>
<th>Region</th>
<th>Tissue Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL-02</td>
<td>Yeast, Saccharomyces cerevisiae</td>
<td>Whole</td>
<td>Normal</td>
</tr>
</tbody>
</table>

For further details, visit GBiosciences.com
**READY-TO-SCREEN WESTERN TISSUE BLOTS**

The premade blots are prepared with the GenLysate™ and then 50μg protein is loaded onto a 4-20% denaturing polyacrylamide gel, along with a prestained molecular weight marker. After the proteins are resolved, they are transferred to a PVDF membrane using G-Biosciences’ Efficient™ Western Transfer Buffer. The blots are ready to be blocked and probed with the antibodies of choice.

Note: We recommend that customers contact our technical department for the latest information on the blots as G-Biosciences reserves the right to change the blot profile due to the availability of GenLysate™.

The categories of blots available are:

1. **Single Tissue Blot; Single Species**
   a. Human Normal Tissue Blots
   b. Human Tumor Tissue Blots
   c. Mouse Blots
   d. Rat Blots
2. **Single Tissue Blot; Multiple Species**
3. **Multiple Tissue Blot; Single Species**
4. **Brain Tissue Region Blot; Single Species**
5. **Kidney Tissue Region Blot; Single Species**
6. **Heart Tissue Region Blot; Single Species**
7. **Eye Tissue Region Blot; Single Species**
8. **Subcellular Fraction Specific Blot; Single Species**
9. **Botanical Garden Blot**
10. **Kingdom Blot**
11. **Human Normal Cell Line Blots**
12. **Human Cancer Cell Line Blots**
13. **Human Tumor Tissue Blots**

**SINGLE TISSUE BLOTS; SINGLE SPECIES**

Each blot contains two protein lanes: a protein marker lane and a lane with one GenLysate™ sample. The available tissue blots are obtained from the following species: mouse, rat and human.

![Figure 1: Single Tissue Blot; Single Species](image)

### Human Normal Tissue Blots

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Tissue</th>
<th>Normal/Tumor</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB07</td>
<td>Brain</td>
<td>Normal</td>
</tr>
<tr>
<td>TB62</td>
<td>Breast</td>
<td>Normal</td>
</tr>
<tr>
<td>TB66</td>
<td>Cervix</td>
<td>Normal</td>
</tr>
<tr>
<td>TB69</td>
<td>Colon</td>
<td>Normal</td>
</tr>
<tr>
<td>TB71</td>
<td>Esophagus</td>
<td>Normal</td>
</tr>
<tr>
<td>TB22</td>
<td>Heart</td>
<td>Normal</td>
</tr>
<tr>
<td>TB64</td>
<td>Hypopharynx</td>
<td>Normal</td>
</tr>
<tr>
<td>TB10</td>
<td>Kidney</td>
<td>Normal</td>
</tr>
<tr>
<td>TB01</td>
<td>Liver</td>
<td>Normal</td>
</tr>
<tr>
<td>TB04</td>
<td>Lung</td>
<td>Normal</td>
</tr>
<tr>
<td>TB16</td>
<td>Ovary</td>
<td>Normal</td>
</tr>
<tr>
<td>TB19</td>
<td>Pancreas</td>
<td>Normal</td>
</tr>
<tr>
<td>TB65</td>
<td>Rectum</td>
<td>Normal</td>
</tr>
<tr>
<td>TB70</td>
<td>Skeletal Muscle</td>
<td>Normal</td>
</tr>
<tr>
<td>TB67</td>
<td>Skin</td>
<td>Normal</td>
</tr>
<tr>
<td>TB25</td>
<td>Spleen</td>
<td>Normal</td>
</tr>
<tr>
<td>TB61</td>
<td>Stomach</td>
<td>Normal</td>
</tr>
<tr>
<td>TB13</td>
<td>Testis</td>
<td>Normal</td>
</tr>
<tr>
<td>TB68</td>
<td>Thyroid</td>
<td>Normal</td>
</tr>
<tr>
<td>TB60</td>
<td>Uterus</td>
<td>Normal</td>
</tr>
<tr>
<td>TB63</td>
<td>Prostate</td>
<td>Normal</td>
</tr>
</tbody>
</table>

### Human Tumor Tissue Blots

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Tissue</th>
<th>Normal/Tumor</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB74</td>
<td>Brain</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB83</td>
<td>Breast</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB86</td>
<td>Cervix</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB89</td>
<td>Colon</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB91</td>
<td>Esophagus</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB84</td>
<td>Hypopharynx</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB75</td>
<td>Kidney</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB72</td>
<td>Liver</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB73</td>
<td>Lung</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB77</td>
<td>Ovary</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB78</td>
<td>Pancreas</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB85</td>
<td>Rectum</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB90</td>
<td>Skeletal Muscle</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB87</td>
<td>Skin</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB80</td>
<td>Spleen</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB82</td>
<td>Stomach</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB76</td>
<td>Testis</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB88</td>
<td>Thyroid</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB81</td>
<td>Uterus</td>
<td>Tumor</td>
</tr>
</tbody>
</table>
### Mouse Blots

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Tissue</th>
<th>Normal/Tumor</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB08</td>
<td>Brain</td>
<td>Normal</td>
</tr>
<tr>
<td>TB23</td>
<td>Heart</td>
<td>Normal</td>
</tr>
<tr>
<td>TB11</td>
<td>Kidney</td>
<td>Normal</td>
</tr>
<tr>
<td>TB02</td>
<td>Liver</td>
<td>Normal</td>
</tr>
<tr>
<td>TB05</td>
<td>Lung</td>
<td>Normal</td>
</tr>
<tr>
<td>TB17</td>
<td>Ovary</td>
<td>Normal</td>
</tr>
<tr>
<td>TB20</td>
<td>Pancreas</td>
<td>Normal</td>
</tr>
<tr>
<td>TB26</td>
<td>Spleen</td>
<td>Normal</td>
</tr>
<tr>
<td>TB14</td>
<td>Testis</td>
<td>Normal</td>
</tr>
</tbody>
</table>

### Rat Blots

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Tissue</th>
<th>Normal/Tumor</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB09</td>
<td>Brain</td>
<td>Normal</td>
</tr>
<tr>
<td>TB24</td>
<td>Heart</td>
<td>Normal</td>
</tr>
<tr>
<td>TB12</td>
<td>Kidney</td>
<td>Normal</td>
</tr>
<tr>
<td>TB03</td>
<td>Liver</td>
<td>Normal</td>
</tr>
<tr>
<td>TB06</td>
<td>Lung</td>
<td>Normal</td>
</tr>
<tr>
<td>TB18</td>
<td>Ovary</td>
<td>Normal</td>
</tr>
<tr>
<td>TB21</td>
<td>Pancreas</td>
<td>Normal</td>
</tr>
<tr>
<td>TB27</td>
<td>Spleen</td>
<td>Normal</td>
</tr>
<tr>
<td>TB15</td>
<td>Testis</td>
<td>Normal</td>
</tr>
</tbody>
</table>

### SINGLE TISSUE BLOTS; MULTIPLE SPECIES

Each blot contains four protein lanes with an identical GenLysate™ tissue lysate from human, mouse and rat species, and a protein marker lane. The available blots are prepared from the following tissues: brain, heart, kidney, liver, lung, ovary, pancreas, spleen and testis.

### MULTIPLE TISSUE BLOTS; SINGLE SPECIES

Each blot has multiple tissue types from either human, mouse or rat species.

Multiple tissue blots permit researchers to visualize the tissue distribution of their protein in a particular species. These have been successfully used for the analysis of a wide variety of proteins. For example, JIP3, a scaffold protein of the JNK pathway, had a specific brain location and was confirmed to be a neuronal protein; human Cds1-related kinase had a testicular localization and was shown to be a meiotic checkpoint kinase; the TATA-box binding protein related factor was present in all human tissues; Geminin, found solely in testis, was shown to be localized to proliferating cells.

An example of our multiple tissue; single species blots is shown below. The mouse multiple tissue blot (Cat. No. TB38) was probed with antibodies against caveolin and the human multiple tissue blot (Cat. No. TB37) was probed with Cox-2.

### CITED REFERENCES


### Cat. No. | Species | Tissue |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TB30</td>
<td>Human, Mouse, Rat</td>
<td>Brain</td>
</tr>
<tr>
<td>TB35</td>
<td>Human, Mouse, Rat</td>
<td>Heart</td>
</tr>
<tr>
<td>TB31</td>
<td>Human, Mouse, Rat</td>
<td>Kidney</td>
</tr>
<tr>
<td>TB28</td>
<td>Human, Mouse, Rat</td>
<td>Liver</td>
</tr>
<tr>
<td>TB29</td>
<td>Human, Mouse, Rat</td>
<td>Lung</td>
</tr>
<tr>
<td>TB33</td>
<td>Human, Mouse, Rat</td>
<td>Ovary</td>
</tr>
<tr>
<td>TB34</td>
<td>Human, Mouse, Rat</td>
<td>Pancreas</td>
</tr>
<tr>
<td>TB36</td>
<td>Human, Mouse, Rat</td>
<td>Spleen</td>
</tr>
<tr>
<td>TB32</td>
<td>Human, Mouse, Rat</td>
<td>Testis</td>
</tr>
</tbody>
</table>
Premade Western Blots

BRAIN TISSUE REGION BLOTS; SINGLE SPECIES

The brain tissue specific regions are prepared by carefully dissecting out anatomically and functionally distinct regions of adult mouse, rat, macaque and human brains. Each blot contains the following indicated brain tissues:

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Tissues</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB40</td>
<td>Amygdala</td>
<td>Mouse</td>
</tr>
<tr>
<td>TB41</td>
<td>Cerebellum</td>
<td>Rat</td>
</tr>
<tr>
<td>TB57</td>
<td>Cingulate Gyrus</td>
<td>Human</td>
</tr>
<tr>
<td>TB59</td>
<td>Entorhinal Cortex</td>
<td>Macaque</td>
</tr>
<tr>
<td></td>
<td>Frontal Cortex</td>
<td>Mouse</td>
</tr>
<tr>
<td></td>
<td>Frontal Lobe</td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td>Hippocampal Gyrus</td>
<td>Human</td>
</tr>
<tr>
<td></td>
<td>Hippocampus</td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td>Hypothalamus</td>
<td>Macaque</td>
</tr>
<tr>
<td></td>
<td>Medulla</td>
<td>Mouse</td>
</tr>
<tr>
<td></td>
<td>Midbrain</td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td>Occipital Lobe</td>
<td>Human</td>
</tr>
<tr>
<td></td>
<td>Olfactory Bulb</td>
<td>Macaque</td>
</tr>
<tr>
<td></td>
<td>Parietal Lobe</td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td>Pons</td>
<td>Mouse</td>
</tr>
<tr>
<td></td>
<td>Posterior Cortex</td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td>Spinal Cord</td>
<td>Mouse</td>
</tr>
<tr>
<td></td>
<td>Striatum</td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td>Temporal Lobe</td>
<td>Macaque</td>
</tr>
<tr>
<td></td>
<td>Thalamus</td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td>Whole Brain</td>
<td>Macaque</td>
</tr>
</tbody>
</table>

KIDNEY TISSUE REGION BLOTS; SINGLE SPECIES

The kidney tissue specific regions are prepared by carefully dissecting out anatomically and functionally distinct regions of adult mouse and rat kidney.

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Tissues</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB42</td>
<td>Whole kidney, medulla, cortex</td>
<td>Mouse</td>
</tr>
<tr>
<td>TB43</td>
<td>Whole kidney, medulla, cortex</td>
<td>Rat</td>
</tr>
</tbody>
</table>

HEART TISSUE REGION BLOTS; SINGLE SPECIES

The heart tissue specific regions are prepared by carefully dissecting out anatomically and functionally distinct regions of adult pig and human heart.

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Tissues</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB46</td>
<td>Whole Heart, Left Ventricle, Right Ventricle, Aortic Valve, Pulmonary Valve, Mitral Valve, Tricuspid Valve, Aorta</td>
<td>Pig</td>
</tr>
<tr>
<td>TB58</td>
<td>Whole Heart, Left Atrium, Right Atrium, Left Ventricle, Right Ventricle</td>
<td>Human</td>
</tr>
</tbody>
</table>

EYE TISSUE REGION BLOTS; SINGLE SPECIES

The eye tissue specific regions are prepared by carefully dissecting out anatomically and functionally distinct regions of adult rat and rabbit eye.

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Tissues</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB44</td>
<td>Whole eye, retina, cornea, aqueous humor</td>
<td>Rat</td>
</tr>
<tr>
<td>TB45</td>
<td>Whole eye, retina, cornea, aqueous humor</td>
<td>Rabbit</td>
</tr>
</tbody>
</table>

SUBCELLULAR FRACTION BLOT

The subcellular fraction blot is prepared by carefully enriching and separating functionally distinct cell organelles from adult mouse liver. Each blot contains the following mouse liver subcellular fractions:

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Tissues</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB47</td>
<td>Whole Liver, Nuclei, Mitochondria, Golgi Complex, Smooth Endoplasmic Reticulum, Rough Endoplasmic Reticulum</td>
<td>Mouse</td>
</tr>
</tbody>
</table>

BOTANICAL GARDEN BLOT

The blot is prepared using total protein extracted from a variety of five to ten day old, whole plant tissues. Each blot contains the following plant tissues:

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Tissue</th>
</tr>
</thead>
<tbody>
<tr>
<td>BB01</td>
<td>Green Algae, Yeast, Barley, Sweet Corn, Rye Grass, Oat, Wheat, Soy, Mung, Sunflower, Cotton, Beet, Tomato, Spinach</td>
</tr>
</tbody>
</table>

KINGDOM BLOT

The blot is prepared using total protein extracted from a variety of species. Where whole species is not available, the whole liver lysate is used. These blots can be used to identify similar proteins in other species, including human, chicken, frog, worm, drosophila, yeast, aspergillus, E. coli, rhizobium and green algae. Each blot contains the following tissues:

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Tissue</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB110</td>
<td>Human Liver (Homo sapiens), Chicken Liver (Gallus gallus), Frog Liver (Rana blairi), Drosophila (Drosophila melanogaster), Earthworm (Aporrectodea trapezoides), Yeast (Saccharomyces cerevisiae), Aspergillus (Aspergillus niger), Arabidopsis (Arabidopsis thaliana), Sweet Corn (Zea mays), Cotton (Gossypium hirsutum), Barley (Hordeum vulgare), Green Algae (Chlamydomonas reinhardtii), Rhizobium (Rhizobium leguminosarum), E.Coli (Escherischia coli)</td>
</tr>
</tbody>
</table>
**HUMAN NORMAL CELL LINE BLOTS**

Each blot is prepared using total protein extracted from a variety of human cell lines. The cell line groups are epithelial, endothelial, skin, and muscle cells. Each blot contains the following cell lines:

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Cell Lines</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB50</td>
<td><strong>Epithelial Cells:</strong> Mammary Epithelial Cells (HMEC) Renal Cortical Epithelial Cells (HRCE) Renal Proximal Tubule Epithelial Cells (RPTEC) Bronchial Epithelial Cells (NBHE) Prostate Epithelial Cells (PrEc)</td>
</tr>
<tr>
<td>TB51</td>
<td><strong>Endothelial Cells:</strong> Pulmonary Artery Endothelial Cells (HPAEC) Coronary Artery Endothelial Cells (HCAEC) Iliac Artery Endothelial Cells (HIAEC) Aortic Endothelial Cells (HAEC) Lung Microvascular Endothelial Cells (HMVEC-L) Umbilical Vein Endothelial Cells (HUVEC) Umbilical Artery Endothelial Cells (HUAEC) Dermal Microvascular Endothelial Cells (HMVEC-d Ad)</td>
</tr>
<tr>
<td>TB52</td>
<td><strong>Skin Cells:</strong> Epidermal Keratinocytes Adult (NHEK-Ad) Epidermal Keratinocytes Neo (NHEK-Neo) Epidermal Keratinocytes Neo Pool (NHEK-Neo Pool) Dermal Fibroblast Adult (NHDF-Ad) Dermal Fibroblast Neo (NHDF-Neo) Microvascular Endothelial Adult (HMVEC-d Ad) Microvascular Endothelial Neo (HMVEC-d Neo)</td>
</tr>
<tr>
<td>TB53</td>
<td><strong>Muscle Cells:</strong> Aortic Smooth Muscle Cells (AoSMC) Bronchial/Tracheal Smooth Muscle Cells (BSMC) Coronary Artery Smooth Muscle Cells (CASMC) Pulmonary Artery Smooth Muscle Cells (PASMC) Umbilical Artery Smooth Muscle Cells (UASMC) Uterine Smooth Muscle Cells (USMC) Skeletal Muscle Cells (SKMC)</td>
</tr>
</tbody>
</table>

**HUMAN CANCER CELL LINE BLOT**

Each blot is prepared using total protein extracted from a variety of human cancer cell lines. Each blot contains the following cancer cell lines:

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Cell Lines</th>
</tr>
</thead>
</table>

**HUMAN TUMOR TISSUE BLOTS**

Contain lysates extracted from human normal and tumor tissues. Each blot contains the following tissues:

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Tissue</th>
<th>Normal/Tumor</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB54</td>
<td>Ovary, Lung, Liver, Rectum, Cervix, Skin, Testis, Thyroid, Uterus, Stomach, Breast, Prostate, Pancreas, Hypopharynx</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB56-I</td>
<td>Uterus, Breast, Cervix, Ovary, Testis, Prostate, Rectum</td>
<td>Normal &amp; Tumor</td>
</tr>
<tr>
<td>TB56-II</td>
<td>Liver, Lung, Pancreas, Stomach, Thyroid, Skin, Hypopharynx</td>
<td>Normal &amp; Tumor</td>
</tr>
<tr>
<td>TB74</td>
<td>Brain</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB83</td>
<td>Breast</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB86</td>
<td>Cervix</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB89</td>
<td>Colon</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB91</td>
<td>Esophagus</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB84</td>
<td>Hypopharynx</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB75</td>
<td>Kidney</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB72</td>
<td>Liver</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB73</td>
<td>Lung</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB77</td>
<td>Ovary</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB78</td>
<td>Pancreas</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB85</td>
<td>Rectum</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB90</td>
<td>Skeletal Muscle</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB87</td>
<td>Skin</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB88</td>
<td>Spleen</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB82</td>
<td>Stomach</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB76</td>
<td>Testis</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB88</td>
<td>Thyroid</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB81</td>
<td>Uterus</td>
<td>Tumor</td>
</tr>
<tr>
<td>TB94</td>
<td>Brain</td>
<td>Normal &amp; Tumor</td>
</tr>
<tr>
<td>TB95</td>
<td>Kidney</td>
<td>Normal &amp; Tumor</td>
</tr>
<tr>
<td>TB92</td>
<td>Liver</td>
<td>Normal &amp; Tumor</td>
</tr>
<tr>
<td>TB93</td>
<td>Lung</td>
<td>Normal &amp; Tumor</td>
</tr>
<tr>
<td>TB97</td>
<td>Ovary</td>
<td>Normal &amp; Tumor</td>
</tr>
<tr>
<td>TB98</td>
<td>Pancreas</td>
<td>Normal &amp; Tumor</td>
</tr>
<tr>
<td>TB100</td>
<td>Spleen</td>
<td>Normal &amp; Tumor</td>
</tr>
<tr>
<td>TB96</td>
<td>Testis</td>
<td>Normal &amp; Tumor</td>
</tr>
<tr>
<td>TB99</td>
<td>Heart</td>
<td>Normal &amp; Tumor</td>
</tr>
<tr>
<td>TB101</td>
<td>Uterus</td>
<td>Normal &amp; Tumor</td>
</tr>
<tr>
<td>TB102</td>
<td>Stomach</td>
<td>Normal &amp; Tumor</td>
</tr>
<tr>
<td>TB103</td>
<td>Breast</td>
<td>Normal &amp; Tumor</td>
</tr>
<tr>
<td>TB104</td>
<td>Hypopharynx</td>
<td>Normal &amp; Tumor</td>
</tr>
<tr>
<td>TB105</td>
<td>Rectum</td>
<td>Normal &amp; Tumor</td>
</tr>
<tr>
<td>TB106</td>
<td>Cervix</td>
<td>Normal &amp; Tumor</td>
</tr>
<tr>
<td>TB107</td>
<td>Skin</td>
<td>Normal &amp; Tumor</td>
</tr>
<tr>
<td>TB108</td>
<td>Thyroid</td>
<td>Normal &amp; Tumor</td>
</tr>
<tr>
<td>TB109</td>
<td>Colon</td>
<td>Normal &amp; Tumor</td>
</tr>
</tbody>
</table>
Western Blotting Accessories

RAPID TRANSFER SYSTEM

SWIFT™ Transfer Pads

Enhanced protein transfer, including high molecular weight proteins

Western blot analysis of proteins is a routine and commonly used technique in research laboratories, with 3 major drawbacks. The first is the amount of time taken to transfer the proteins to a protein binding membrane; the second is the variable efficiency of the transfer and the third is problems in transferring high molecular weight proteins. Other minor drawbacks also exist with the Western blotting technique and these include overheating of the apparatus, shorting out of power packs due to excess current and the messy assembling of transfer sandwiches.

SWIFT™ transfer pads alleviate the above issues with Western blotting, when incorporated in the Western blot sandwich. Each SWIFT™ transfer pad can reduce transfer time by up to 50%, while consistently producing high efficiency transfer. The SWIFT™ transfer pad technology prevents overheating and power shortages by allowing lower chemical concentrations in the transfer buffers, without affecting transfer efficiency. The SWIFT™ transfer pad technology combines the simplicity of semi-dry sandwich assembly with the improved efficiency of wet blot transfers, reducing the need for assembly in large tanks of buffer.

SWIFT™ transfer pads are treated with a proprietary electrolyte buffer to enhance Western blot transfer efficiency. SWIFT™ is compatible with any transfer system, is supplied with or without nitrocellulose or PVDF membranes, and is available in Mini (7.5 x 8.5cm) or Medi (9.5 x 15cm). SWIFT™ Mini is for 10 Western blots and the SWIFT™ Medi is for 5 Western blots.

FEATURES
• High efficiency protein transfer
• Reduce transfer time by up to 50%
• No overheating or power shorts
• No distortion or poor high molecular weight protein transfer

APPLICATIONS
• All Western blot applications
• For improved transfer of high molecular weight proteins

Table 1: SWIFT™ transfer pad options.

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>786-370</td>
<td>SWIFT™ Mini transfer pad</td>
<td>10</td>
</tr>
<tr>
<td>786-371</td>
<td>SWIFT™ Mini transfer pad with nitrocellulose</td>
<td>10</td>
</tr>
<tr>
<td>786-372</td>
<td>SWIFT™ Mini transfer pad with PVDF</td>
<td>10</td>
</tr>
<tr>
<td>786-373</td>
<td>SWIFT™ Medi transfer pad</td>
<td>5</td>
</tr>
<tr>
<td>786-374</td>
<td>SWIFT™ Medi transfer pad with nitrocellulose</td>
<td>5</td>
</tr>
<tr>
<td>786-375</td>
<td>SWIFT™ Medi transfer pad with PVDF</td>
<td>5</td>
</tr>
</tbody>
</table>

NITROCELLULOSE & PVDF MEMBRANES

Pre-cut transfer membranes and padding for Western blot transfer procedures. Pre-cut membranes are supplied sandwiched between blotting paper padding. Simply soak the membrane in transfer buffer and assemble with the gel in a transfer cassette. Nitrocellulose and PVDF (Polyvinylidene difluoride) membranes are available in 7.5 x 8.5cm or 10 x 10cm sizes.

CITED REFERENCES

Table 2: NITROCELLULOSE & PVDF MEMBRANES.

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>786-018NC</td>
<td>Nitrocellulose membrane &amp; padding (7.5 x 8.5cm)</td>
<td>20</td>
</tr>
<tr>
<td>786-018PV</td>
<td>PVDF membrane &amp; padding (7.5 x 8.5cm)</td>
<td>20</td>
</tr>
<tr>
<td>786-056NC</td>
<td>Nitrocellulose membrane &amp; padding (10 x 10cm)</td>
<td>10</td>
</tr>
<tr>
<td>786-056PV</td>
<td>PVDF membrane &amp; padding (10 x 10cm)</td>
<td>10</td>
</tr>
</tbody>
</table>

TRANSFER BUFFER

Efficient™ Western Transfer Buffer

For increased protein transfer efficiency

A ready-to-use 20X transfer buffer is prepared for optimal conductivity and efficient protein transfer without generating excessive heat or transfer distortion. Efficient™ Western Transfer Buffer achieves greater protein transfer compared to our leading competitors.

Table 3: EFFICIENT™ WESTERN TRANSFER BUFFER.

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>786-019</td>
<td>Efficient™ Western Transfer Buffer [20X]</td>
<td>1L</td>
</tr>
</tbody>
</table>
MEMBRANE STAIN

Swift™ Membrane Stain

30 second, reversible & sensitive membrane stain

A unique, proprietary, reversible, ready-to-use membrane stain for proteins on nitrocellulose or PVDF membranes. Swift™ Membrane Stain stains proteins faster and with 500X more sensitivity than the routinely used Ponceau-S stain. The lower detection limit is ~0.5ng protein (BSA)/band on nitrocellulose membrane.

Only stains proteins resulting in a clear background and no requirement for additional steps to remove background. The stronger staining allows for easier image capture due to the strong blue stain on a clear, white background.

Swift™ Membrane Stain can be complete removed from the membrane in <1 minute without affecting the biological or immunological properties of the immobilized proteins. This offers an advantage over Coomassie based stains as these are irreversible and can interfere with Western blotting. Suitable for 20 membranes (8 x 10cm).

FEATURES

• Reversible stain for protein membranes
• Compatible with nitrocellulose or PVDF
• 500X more sensitive than Ponceau-S (~0.5ng vs. 100ng BSA)
• Outperforms routinely used Ponceau-S

APPLICATIONS

• For visualization of proteins on membranes after Western transfer and dot-blot applications
• Offers simpler image capture

For further details, visit GBiosciences.com

NON-ANIMAL BLOCKING AGENTS

A major drawback of animal protein blocking solutions, such as BSA, casein and milk powders, is they are derived from animal sources. The presence of animal proteins can often lead to high non-specific backgrounds as antigens and antibodies, generated in animals, interact with the “blocking” animal proteins.

NAP-BLOCKER™

Non-animal blocking protein preparation

For improved assay sensitivity, minimal non-specific binding, and a high signal-to-background ratio. NAP-BLOCKER™ ensures no cross-reaction with your animal source antigens and antibodies, due to being 100% free of animal proteins. NAP-BLOCKER™ is easy to use and generates high publication quality blots.

NAP-BLOCKER™ in TBS
5% Milk Powder in TBS
NAP-BLOCKER™ in TBS+ TW-20

Figure 7: Comparison of NAP-BLOCKER™ and milk powder. Protein lysates were transferred to PVDF membranes and blocked for 90 minutes. The membranes were probed for actin and subsequently exposed to film for 20 minutes.

NAP-BLOCKER™ is free from biotin and other cross-reacting agents present in most of the animal source blocking agents. NAP-BLOCKER™ ensures uniform blocking without non-specific binding. It is simple to use with improved results compared to milk powder preparations.

NAP-BLOCKER™ is supplied as a pre-made [2X] solution; simply dilute with any buffer and block nitrocellulose or PVDF membranes. Alternatively, NAP-BLOCKER™ is supplied in PBS or TBS buffers.

FEATURES

• Non-animal protein blocking agent
• 2X concentrated solution
• Uniform blocking with reduced background staining

APPLICATIONS

• For Western blots, dot blots, ELISA and assay development

CITED REFERENCES

Upadhya, R. et al (2013) PLOS. DOI: 10.1371/journal.pone.0055110

Cat. No. | Description | Size
--- | --- | ---
786-677 | SWIFT™ Membrane Stain | 20 blots

For further details, visit GBiosciences.com
**Western Blotting Accessories**

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### Protein-Free™ Blocking Buffer

**Eliminates protein related cross-reactivity**

Protein-Free™ Blocking Buffer does not contain protein; it is a proprietary formulation of non-protein agents that eliminates non-specific binding sites in ELISA, blotting, immunohistochemistry and other applications. The absence of protein eliminates problems associated with traditional protein-based blockers, such as cross-reactivity and interference from glycosylated proteins.

Protein-Free™ Blocking Buffer eliminates any concern associated with regulatory compliance issues where use of animal source components are restricted. Furthermore, the buffer is compatible with antibodies and avidin/biotin based systems and results in high signal to background ratios.

The buffers are supplied in either TBS (Tris Buffered Saline, pH7.5) or PBS (Phosphate Buffered Saline, pH7.5) alone, or with optional added Tween® 20 detergent for improving blocking efficiencies.

**FEATURES**
- Ready-to-use, protein-free blocking agent, available in four formats
- Eliminate cross reactivity with animal source antibodies
- High signal to background ratios

**APPLICATIONS**
- Suitable for Western blot and ELISA applications

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>786-664</td>
<td>Protein-Free Blocking Buffer-PBS</td>
<td>500ml</td>
</tr>
<tr>
<td>786-665</td>
<td>Protein-Free Blocking Buffer-PBST</td>
<td>500ml</td>
</tr>
<tr>
<td>786-662</td>
<td>Protein-Free Blocking Buffer-TBS</td>
<td>500ml</td>
</tr>
<tr>
<td>786-663</td>
<td>Protein-Free Blocking Buffer-TBST</td>
<td>500ml</td>
</tr>
</tbody>
</table>

### NON-SERA ANIMAL PROTEIN BLOCKING AGENTS

#### FirstChoice™ Blocking Buffer

**Ideal for new assay development**

A proprietary protein formulation that offers greater versatility and lack of cross-reactivity. FirstChoice™ Blocking Buffer is ideal as a first choice for optimization of new assays, systems or when determining the optimal blocking buffer for elimination of non-specific binding sites in ELISA, blotting, immunohistochemistry and other applications. FirstChoice™ Blocking Buffers are compatible with antibodies and avidin/biotin based systems and results in high signal to background ratios.

For users convenience FirstChoice™ Blocking Buffers are supplied in widely used TBS (Tris Buffered Saline, pH7.5) or PBS (Phosphate Buffered Saline, pH7.5) buffers as well as in separate formulations containing Tween® 20 for improving blocking efficiencies.

**FEATURES**
- Ready-to-use buffer for Western blotting and ELISA
- Available as TBS or PBS with optional Tween® 20
- Animal serum free and biotin free

**APPLICATIONS**
- Ideal blocking buffer for setting up new assays and systems

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>786-668</td>
<td>FirstChoice™ Blocking Buffer-PBS</td>
<td>500ml</td>
</tr>
<tr>
<td>786-669</td>
<td>FirstChoice™ Blocking Buffer-PBST</td>
<td>500ml</td>
</tr>
<tr>
<td>786-666</td>
<td>FirstChoice™ Blocking Buffer-TBS</td>
<td>500ml</td>
</tr>
<tr>
<td>786-667</td>
<td>FirstChoice™ Blocking Buffer-TBST</td>
<td>500ml</td>
</tr>
</tbody>
</table>

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### BLOT-QuickBlocker™

**A modified milk protein blocking agent**

BLOT-QuickBlocker™ is a novel modified milk protein that is highly soluble and does not inhibit peroxidase detection. The protein has high blocking efficiency with a clear background.

**FEATURES**
- Readily soluble, fat free blocker with no peroxidase inhibition
- Produces clear background and semi-clear solution
- Blocking time: 30 to 60 minutes

**APPLICATIONS**
- For Western blots and dot blots

**CITED REFERENCES**

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>786-011</td>
<td>BLOT-QuickBlocker™</td>
<td>175g</td>
</tr>
</tbody>
</table>

### FISH-Blocker™

**Uses fish proteins to eliminate cross reactivity**

FISH-Blocker™ is a blocking agent that uses a fish protein as the primary blocking agent. The use of a fish protein, a non-mammalian protein, is that it eliminates or minimizes the interaction of antibodies raised in mammals. FISH-Blocker™ is one of the best blocking agents for immunoassays and it offers an alternative to milk-based blocking agents, minimizing the risk of non-specific binding of antibodies during the immunodetection process and lowering the background.

**FEATURES**
- A non mammailan protein to elimate non-specific binding
- High signal to background ratio
- Ready-to-use

**APPLICATIONS**
- Suitable for Western blot and ELISA applications

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>786-675</td>
<td>FISH-Blocker™ in PBS</td>
<td>500ml</td>
</tr>
<tr>
<td>786-674</td>
<td>FISH-Blocker™ in TBS</td>
<td>500ml</td>
</tr>
</tbody>
</table>

---

For further details, visit GBiosciences.com
Superior™ Blocking Buffer

An enhanced blocker in multiple formats

Superior™ Blocking Buffer contains an antigenically non-determinant protein for blocking non-specific sites during ELISA, membrane blotting, immunohistochemistry and other applications. The buffer is ideal for a high signal to background ratio in most systems. It uses a non-serum protein and does not contain biotin or other animal source proteins that interfere with immuno-complexes. The buffer is suitable for assays that use avidin/streptavidin systems.

Superior™ Blocking Buffer for Precipitating Substrate is a modification of the original blotting buffer that has been optimized for use in protocols that use precipitating substrates, such as our femtoCHROMO™ chromogenic detection systems, TMB (3, 3’, 5, 5’-Tetramethylbenzidine), BCIP (5-Bromo-4-Chloro-3’-Indolyphosphate p-Toluidine Salt) and NBT (Nitro-Blue Tetrazolium Chloride) substrates. Superior™ Blocking Buffer for Precipitating Substrate is not suitable for ELISA or immunohistochemistry staining.

Available in multiple formats using TBS, PBS, TBS with 0.05% Tween® 20 or PBS with 0.05% Tween® 20. Also supplied as a convenient dry form that is stable at room temperature. Each dry format pack makes 200ml Superior™ Blocking Buffer.

FEATURES
• Animal serum free
• Rapid blocking time: ~2 minutes for ELISA
• Multiple formats: ready-to-use liquid or dry buffer packs
• Available as TBS or PBS with optional Tween® 20

APPLICATIONS
• For blocking Western blot membranes (PVDF and nitrocellulose)
• For blocking and storage of ELISA plates
• For blocking prior to immunohistochemistry staining

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>786-660</td>
<td>Superior™ Blocking Buffer in PBS</td>
<td>500ml</td>
</tr>
<tr>
<td>786-661</td>
<td>Superior™ Blocking Buffer in PBST</td>
<td>500ml</td>
</tr>
<tr>
<td>786-658</td>
<td>Superior™ Blocking Buffer in TBS</td>
<td>500ml</td>
</tr>
<tr>
<td>786-659</td>
<td>Superior™ Blocking Buffer in TBST</td>
<td>500ml</td>
</tr>
<tr>
<td>786-601</td>
<td>Superior™ Blocking Buffer-Dry Blend in PBS</td>
<td>5 packs</td>
</tr>
<tr>
<td>786-657</td>
<td>Superior™ Blocking Buffer-Dry Blend in TBS</td>
<td>5 packs</td>
</tr>
<tr>
<td>786-656</td>
<td>Superior™ Blocking Buffer for Precipitating Substrate in PBS</td>
<td>500ml</td>
</tr>
<tr>
<td>786-655</td>
<td>Superior™ Blocking Buffer for Precipitating Substrate in TBS</td>
<td>500ml</td>
</tr>
</tbody>
</table>

Horseradish Peroxidase (HRP) Conjugated Antibodies

Affinity purified horseradish peroxidase is a 44kDa glycoprotein, with 4 lysine residues, for conjugation to a labeled molecule. It produces a colored, fluorimetric, or luminescent derivative of the labeled molecule, allowing it to be detected and quantified. HRP is ideal for secondary antibody conjugation because it is smaller, more stable, and less expensive than other popular alternatives. It also has a high turnover rate that allows the generation of strong signals in a relatively short time span. The activity of the HRP enzyme is inhibited by cyanides, azides and sulfides.

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>786-R41</td>
<td>Horseradish peroxidase (HRP) labeled goat α-human IgG</td>
<td>2ml</td>
</tr>
<tr>
<td>786-R38</td>
<td>HRP labeled goat α-mouse IgG</td>
<td>2ml</td>
</tr>
<tr>
<td>786-R39</td>
<td>HRP labeled goat α-rabbit IgG</td>
<td>2ml</td>
</tr>
<tr>
<td>786-R40</td>
<td>HRP labeled goat α-rat IgG</td>
<td>2ml</td>
</tr>
<tr>
<td>786-R42</td>
<td>HRP labeled rabbit α-goat IgG</td>
<td>1.5ml</td>
</tr>
<tr>
<td>786-R48</td>
<td>HRP labeled rabbit α-human IgG</td>
<td>1.5ml</td>
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</tbody>
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Alkaline Phosphatase (AP) Conjugated Antibodies

Affinity purified alkaline phosphatase is a large 140kDa protein that hydrolyzes phosphate groups from substrates, resulting in a colored, fluorimetric or luminescent derivative.

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>786-R46</td>
<td>Alkaline phosphatase (AP) labeled goat α-human IgG</td>
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<tr>
<td>786-R43</td>
<td>AP labeled goat α-mouse IgG</td>
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<td>786-R44</td>
<td>AP labeled goat α-rabbit IgG</td>
<td>1ml</td>
</tr>
<tr>
<td>786-R45</td>
<td>AP labeled goat α-rat IgG</td>
<td>1ml</td>
</tr>
<tr>
<td>786-R47</td>
<td>AP labeled rabbit α-goat IgG</td>
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</tr>
<tr>
<td>786-R49</td>
<td>AP labeled rabbit α-human IgG</td>
<td>1ml</td>
</tr>
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</table>
STRIPPING SOLUTIONS

Western ReProbe™

For multiple probing of Western blots

A single component system, specifically formulated to dissociate and remove antibodies from membrane bound proteins without destroying the antigenic binding affinity and does not use denaturants, SDS or boiling. Western ReProbe™ allows you the ability to reuse your Western blots. The stripped blots can then be probed with new probes.

Western ReProbe™ is not recommended for stripping color producing Western blots that use substrates such as TMB, chloronapthol and DAB. Supplied as a 5X solution; uses 15-20ml for each standard (7.5 x 8.5cm) Western blot.

FEATURES
- Simply incubate at room temperature and wash
- No boiling, denaturants or SDS required

APPLICATIONS
- Reprobe for housekeeping proteins
- Compare phosphorylated and total protein on the same blot
- Re-analysis and correction of unsatisfactory Western blots
- Conservation of hard-to-obtain test samples and reagents

CITED REFERENCES


Western ReProbe™ PLUS

Remove high affinity antibodies

Based on our popular Western ReProbe™, the modified formulation allows for the removal of stubborn, high affinity antibodies from membrane bound proteins without destroying the antigenic binding affinity. Not recommended for stripping color producing Western blots that use substrates such as TMB, chloronapthol and DAB. Requires no dilution and uses 15-20ml for each standard (7.5 x 8.5cm) Western blots.

FEATURES
- Ready-to-use, no dilution required
- Simply incubate at room temperature and wash
- No boiling, denaturants or SDS required

APPLICATIONS
- Removes high affinity antibodies
- Reprobe for housekeeping proteins
- Compare phosphorylated and total protein on the same blot
- Re-analysis and correction of unsatisfactory Western blots
- Conservation of hard-to-obtain test samples and reagents

CITED REFERENCES


Figure 8: Mouse liver extract was transferred onto PVDF membrane and first probed for actin, then stripped with Western ReProbe™ and subsequently screened for tubulin antigens. Tubulin band was developed without loss of signal or background problems.
**FemtoLUCENT™ Plus**

**Highly sensitive detection system of HRP or AP**

FemtoLUCENT™ Plus is based on our ultra sensitive lumino substrate that produces chemiluminescence upon reaction with horseradish peroxidase (HRP) or alkaline phosphatase (AP).

- FemtoLUCENT™ Plus-HRP reagents are available in three sizes suitable for 25, 50 and 125 blots as each 4ml of working solution is suitable for 1 mini blot (8 x 7.5cm).
- In addition, femtoLUCENT™ Plus-HRP and -AP are also supplied in a kit format, containing our non-animal protein blocking agent (NAP-BLOCKER™) and wash buffer (femto-TBST™). The femtoLUCENT™ Plus kits allow detection of low femtogram levels (10⁻¹⁵) of antigens with low noise (signal/background) ratio. The kit reagents are sufficient for 25 mini blots or 1.500cm² of PVDF or nitrocellulose membrane. The trial sizes are suitable for 5 mini blots or 300cm².

**Features**

- Detection reagents for HRP or AP
- NAP-BLOCKER™, a non animal protein blocking agent
- Femto-TBST™ washing buffer

**Applications**

- For Western blots and dot blot applications

**Cited References**


---

**Picolucent™ Plus**

**Based on ultra sensitive Lumino substrate that produces chemiluminescence upon reaction with HRP or AP**

Picolucent™ Plus-HRP reagents are available in five sizes suitable for 5, 25, 50, 125 and 250 blots as each 4ml of working solution is suitable for 1 mini blot (8 x 7.5cm).

Also supplied in a kit format, containing our non-animal protein blocking agent (NAP-BLOCKER™) and wash buffer (femto-TBST™). The picolucent™ Plus-HRP kits allow detection of low picogram levels (10⁻¹²) of antigens with low noise (signal/background) ratio. The kit reagents are sufficient for 25 mini blots or 1.500cm² of PVDF or nitrocellulose membrane.

---

**Western Blotting Accessories**

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**Figure 9: NIH3T3 cells were fractionated with Focus™ Cytoplasmic & Nuclear Extraction kit. The fractions were resolved and blotted. The blot was probed with α-caveolin and the protein visualized with femtoLUCENT™ Plus system.**

---

**Table 1: FemtoLUCENT™ Plus Kits**

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Size (# of mini blots)</th>
<th>Working Solution Volume (ml)</th>
<th>NAP-BLOCKER™ &amp; FemtoTBST™ Wash Buffer</th>
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<td>25</td>
<td>100</td>
<td>-</td>
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<tr>
<td>786-056</td>
<td>50</td>
<td>200</td>
<td>-</td>
</tr>
<tr>
<td>786-081</td>
<td>125</td>
<td>500</td>
<td>-</td>
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<tr>
<td>786-10</td>
<td>25</td>
<td>1000</td>
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<tr>
<td>786-10T</td>
<td>5</td>
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**Table 2: Picolucent™ Plus Kits**

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<th>Cat. No.</th>
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<th>Working Solution Volume (ml)</th>
<th>NAP-BLOCKER™ &amp; FemtoTBST™ Wash Buffer</th>
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</thead>
<tbody>
<tr>
<td>786-09T</td>
<td>5</td>
<td>20</td>
<td>-</td>
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<tr>
<td>786-002</td>
<td>25</td>
<td>100</td>
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</tr>
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<td>786-165</td>
<td>50</td>
<td>200</td>
<td>-</td>
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<tr>
<td>786-264</td>
<td>125</td>
<td>500</td>
<td>-</td>
</tr>
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<td>-</td>
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<tr>
<td>786-09</td>
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<td>100</td>
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**Table 3: Cat. No.**

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Size (# of mini blots)</th>
<th>Working Solution Volume (ml)</th>
<th>NAP-BLOCKER™ &amp; FemtoTBST™ Wash Buffer</th>
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</thead>
<tbody>
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<td>786-09AP</td>
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<td>Yes</td>
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<tr>
<td>786-09APT</td>
<td>5</td>
<td>20</td>
<td>Yes</td>
</tr>
</tbody>
</table>

---

**Image 1: Western Blotting Accessories**

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**For further details, visit GBiosciences.com**
RAPID BLOT DETECTION SYSTEM

SWIFT™ Western Diluent

Unique, Rapid Development of Western blots

SWIFT™ Western Diluent is a new generation Western blotting reagent. The single reagent SWIFT™ Western Diluent simplifies protein detection by Western blotting and reduces the overall time spent on Western blot development. Traditional Western blotting requires a blocking step to eliminate non-specific binding and the majority of published protocols recommend incubating the blot membrane in blocking solutions from 1 hr to overnight. SWIFT™ Western Diluent has been developed to eliminate the time consuming blocking step (see figure).

The SWIFT™ Western Diluent is a unique solution that eliminates the blocking step and can reduce antibody incubations on Western blot membranes. SWIFT™ Western Diluent generates comparable results to traditional Western blotting procedures and other commercial "fast" Western blotting kits (see blots below).

An added advantage is that SWIFT™ Western Diluent is designed to be used with any existing combination of primary and secondary antibodies, unlike other commercial kits that limit researcher’s to rabbit or mouse primary antibodies.

For added convenience, the SWIFT™ Western Diluent is supplied in a complete kit to ensure optimal results. The kit includes SWIFT™ Western Diluent, proprietary wash buffers and our highly sensitive femtoLUCENT™ chemiluminescence detection reagent.

femtoCHROMO™-AP

Ready-to-use modified BCIP (5-Bromo-4-Chloro-3'-Indolylphosphate p-Toluidine Salt) and NBT (Nitro-Blue Tetrazolium Chloride) substrate that generates a black-purple insoluble precipitate in the presence of alkaline phosphatase.

Supplied with an enhanced blocking agent, BLOT-QuickBlocker™, and a concentrated [10X] washing buffer, femtoTBST™ Buffer to ensure low background staining. Optional AP labeled goat α-mouse or rabbit antibodies are supplied.

FEATURES

• Detects >5ng
• Ready-to-use, single detection step
• High signal to background ratio and reproducibility

Figure 11: Detection with femtoCHROMO™. Human lysates were transferred to a PVDF membrane, which was probed with actin and alkaline phosphatase labeled goat anti-mouse antibodies. Membrane was probed with femtoCHROMO™-AP substrate.

femtoCHROMO™-HRP

A ready-to-use modified TMB (3, 3’, 5, 5’-Tetramethylbenzidine) substrate is used that generates a dark blue precipitate in the presence of horseradish peroxidase.

Supplied with an enhanced blocking agent, BLOT-QuickBlocker™, and a concentrated [10X] washing buffer, femtoTBST™ Buffer to ensure low background staining. Optional HRP labeled goat α-mouse or rabbit antibodies are supplied.

FEATURES

• Detects >20ng
• High signal to background ratio and reproducibility

Figure 12: Detection with femtoCHROMO™. Human lysates were transferred to a PVDF membrane, which was probed with actin and horseradish peroxidase labeled goat anti-mouse antibodies. Membrane was probed femtoCHROMO™-HRP substrate.

Cat. No. Description Size
786-679 SWIFT™ Western Diluent 8 blots
786-158 SWIFT™ Western Blotting System 8 blots

CITED REFERENCES


femtoCHROMO™-HRP for Horseradish peroxidase (HRP)

Cat. No. Description Size
786-384 4,000
786-385 4,000
786-386 4,000
786-387 4,000
786-388 4,000

Goat HRP Conjugated Secondary Antibodies BLOT-QuickBlocker™ & femtoTBST™ Wash Buffer
α-mouse antibody
α-rabbit antibody
α-mouse antibody
α-rabbit antibody
α-mouse antibody
α-rabbit antibody

Yes
Yes
Yes
Yes
Yes

For further details, visit GBiosciences.com
**WELL-COATED™ PLATES**

G-Biosciences offers a large selection of coated 96-well plates, known as our Well-Coated™ plates. The plates are available as single 96-well plates or as 12 x 8-well strips in a 96-well holder. The majority of the plates are supplied as clear, white and black plates for colorimetric, chemiluminescence and fluorescent detection systems respectively.

The Well-Coated™ plates are offered with the following coatings:

1. **For Biotin Binding**
   - Well-Coated™ Neutravidin™
   - Well-Coated™ Streptavidin
   - Well-Coated™ Biotin

2. **For Protein/Peptide Binding**
   - Well-Coated™ Nickel
   - Well-Coated™ Glutathione
   - Well-Coated™ Amine Binding
   - Well-Coated™ Sulfhydryl Binding

3. **For Antibody Binding**
   - Well-Coated™ Protein A, Protein G and Protein A/G
   - Well-Coated™ Protein L
   - Well-Coated™ Protein Antibody (goat α-mouse; goat α-rabbit)

**Microplate Sealing Tape**

A clear, self-sticking tape for standard microplates. Suitable for both 96-well and 384-well plates.

The precut, pressure-sensitive tape seals and reseals the surface of the plates during incubations to prevent evaporation and allow more vigorous mixing. The tape will reseal the plates 2-3 times.

**FOR BIOTIN BINDING**

**Well-Coated™ Neutravidin™**

**Bind biotinylated molecules & proteins**

Designed to specifically bind biotinylated molecules, including biotin tagged antibodies, with minimal non-specific binding. This is particularly advantageous for antibodies known to denature upon direct binding to polystyrene plates.

Neutravidin™ is in many respects similar to avidin and streptavidin except that it has no carbohydrate side chains to eliminate lectin binding; is of near neutral pH (6.3) to reduce non-specific adsorption; lacks the RYD sequence eliminating interaction with RGD domain of adhesion receptors. The binding of Neutravidin™ is similar to that of avidin and streptavidin with less non-specific binding.

Well-Coated™ Neutravidin™ plates are suitable for direct, indirect, competitive and sandwich assays.

The wells are coated to a 100µl depth and are supplied pre-blocked.

**FEATURES**
- Binding capacity: ~15pmol D-biotin/well
- High binding affinity for biotin
- Low non-specific binding
- Reduced non-specific binding as plates are pre-blocked

**Well-Coated™ Streptavidin**

**Bind biotinylated molecules & proteins**

Designed to specifically bind biotinylated molecules, including biotin tagged antibodies. This is particularly advantageous for antibodies known to denature upon direct binding to polystyrene plates.

Biotin exhibits an extraordinary binding affinity for streptavidin (Ka=10^15 M^-1). Biotin and streptavidin interaction is rapid and once the bond is established it can survive up to 3M guanidine-hydrochloride and extremes of pH. Biotin-streptavidin bonds can only be reversed by denaturing the streptavidin with 8M guanidine-hydrochloride at pH1.5 or by autoclaving. Streptavidin has no carbohydrate and its solubility (isoelectric pH5) in aqueous buffer and the level of non-specific binding is lower than avidin, due to the lack of carbohydrate groups.

Well-Coated™ Streptavidin plates are suitable for direct, indirect, competitive and sandwich assays.

The wells are coated to a 100µl depth and are supplied pre-blocked.

**FEATURES**
- Binding capacity: ~5pmol D-biotin/well
- High binding affinity for biotin
- Low non-specific binding
- Ideal for peptides, antibodies and small hydrophilic molecules
- Reduced non-specific binding as plates are pre-blocked

**Well-Coated™ Biotin**

**Bind avidin, streptavidin or Neutravidin™ conjugated molecules**

Designed to specifically bind avidin, streptavidin or Neutravidin™ conjugated molecules, including enzyme conjugates.

Biotin exhibits an extraordinary binding affinity for avidin (Ka=10^15 M^-1) and streptavidin (Ka=10^15 M^-1). Biotin and avidin interaction is rapid and once the bond is established it can survive up to 3M guanidine-hydrochloride and extremes of pH. Biotin-avidin bonds can only be reversed by denaturing the avidin protein molecule with 8M guanidine-hydrochloride at pH1.5 or by autoclaving.

In many respects, Streptavidin and Neutravidin™ are similar to avidin, except they have no carbohydrate and their solubility in aqueous buffer is much lower than avidin. Neutravidin™ also lacks the RYD sequence eliminating interaction with RGD domain of adhesion receptors.

The binding of streptavidin and Neutravidin™ is similar to that of avidin, but with less non-specific binding.

The wells are coated to a 100µl depth and are supplied pre-blocked.

**FEATURES**
- Binds avidin, streptavidin and Neutravidin™ conjugated molecules
- Reduced non-specific binding as plates are pre-blocked

For further details, visit GBiosciences.com
FOR PROTEIN/PEPTIDE BINDING

Well-Coated™ Nickel

Bind 6X His-tagged proteins

Designed to specifically bind 6X histidine (polyhistidine) tagged proteins and peptides. The plates isolate polyhistidine-tagged proteins direct from bacterial lysates for subsequent ELISA protocols.

The wells are coated to a 200µl depth and are supplied pre-blocked.

FEATURES
• Binding Capacity: ~9mol His-tagged protein/well
• Low non-specific binding
• Ideal for proteins and peptides with polyhistidine (6X His) tag

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>786-749</td>
<td>Well-Coated™ Nickel, 8 well strip plate, Clear</td>
<td>5 Plates</td>
</tr>
<tr>
<td>786-768</td>
<td>Well-Coated™ Nickel, 96 well plate, Black</td>
<td>5 Plates</td>
</tr>
<tr>
<td>786-769</td>
<td>Well-Coated™ Nickel, 96 well plate, White</td>
<td>5 Plates</td>
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</tbody>
</table>

Well-Coated™ Glutathione

Bind GST-tagged proteins

Designed to specifically bind GST (Glutathione S-Transferase) tagged proteins and peptides. The plates have immobilized glutathione and isolate GST-tagged proteins direct from bacterial lysates for subsequent ELISA protocols.

The wells are coated to a 100µl depth and are supplied pre-blocked.

FEATURES
• Binding Capacity: ~9mol purified GST/well
• Low non-specific binding

<table>
<thead>
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<td>786-764</td>
<td>Well-Coated™ Glutathione, 96 well plate, Black</td>
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<td>786-765</td>
<td>Well-Coated™ Glutathione, 96 well plate, White</td>
<td>5 Plates</td>
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</tbody>
</table>

Well-Coated™ Amine Binding

Bind primary amines of peptides & proteins

Designed to specifically bind primary amines of peptides, proteins and other molecules and overcome the inherent issues of passive adsorption for immobilizing peptides and other ligands for binding assays.

Well-Coated™ Amine Binding plates are maleic anhydride activated plates that react with primary amines to form amide bonds that are stable at pH≥7. Acidic conditions will hydrolyze the bonds releasing the peptide/ligand, therefore binding of peptide/ligand to plates should be performed at pH8-9 and the binding assays or ELISA should be performed at pH≥7.

The wells are coated to a 200µl depth and are supplied pre-blocked.

FEATURES
• Binding capacity: ~120pmol HOOK™ Biotin Pentylamine/well
• Rapid binding of primary amines
• Stable plates
• Reduced non-specific binding as plates are pre-blocked

CITED REFERENCES

<table>
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<tr>
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<th>Description</th>
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<tr>
<td>786-753</td>
<td>Well-Coated™ Amine Binding, 8 well strip plate, Clear</td>
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<td>786-756</td>
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<td>786-757</td>
<td>Well-Coated™ Amine Binding, 96 well plate, White</td>
<td>5 Plates</td>
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</table>

Well-Coated™ Sulfhydryl Binding

Bind free sulfhydryls of peptides & proteins

Designed to specifically bind free sulfhydryls of peptides, proteins and other molecules and overcome the inherent issues of passive adsorption for immobilizing peptides and other ligands for binding assays.

Well-Coated™ Sulfhydryl Binding plates are maleimide activated plates that react with free sulfhydryls to form stable thioether bonds at pH 6.5-7.5. pH >7.5 significantly increases the reaction of amines with the maleimide groups.

The wells are coated to a 100µl depth and are supplied pre-blocked.

FEATURES
• Binding capacity: ~120pmol sulfhydryl peptide/well
• Rapid binding of sulfhydryls
• Reduced non-specific binding as plates are pre-blocked

<table>
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<td>786-780</td>
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<td>786-781</td>
<td>Well-Coated™ Sulfhydryl Binding, 96 well plate, White</td>
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</table>

Assay Development Accessories

For further details, visit GBiosciences.com
FOR ANTIBODY BINDING

Well-Coated™ Antibody

Bind mouse or rabbit IgG antibodies

Designed to specifically bind either mouse or rabbit IgG making them suitable for binding assays using low quantities of antibodies or antibodies that denature on direct binding to polystyrene plates. Another advantage is that the specificity to IgG means purified antibodies are not essential.

Suitable for direct, indirect, competitive and sandwich assays.

The wells are coated to a 100µl depth and are supplied pre-blocked.

FEATURES
• Binds ~7pmol mouse IgG/well or ~12pmol rabbit IgG/well
• Prevents denaturation of antibodies unlike direct binding
• Species-specific binding

<table>
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<th>Cat. No.</th>
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<tbody>
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<td>Well-Coated™ Antibody (goat α-mouse), 96 well, Black</td>
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<td>786-759</td>
<td>Well-Coated™ Antibody (goat α-mouse), 96 well, White</td>
<td>5 Plates</td>
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<tr>
<td>786-741</td>
<td>Well-Coated™ Antibody (goat α-rabbit), 8-well strip, Clear</td>
<td>5 Plates</td>
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<td>786-760</td>
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<td>786-761</td>
<td>Well-Coated™ Antibody (goat α-rabbit), 96 well, White</td>
<td>5 Plates</td>
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</table>

Well-Coated™ Protein A, G & A/G

Bind constant (Fc) domain of antibodies

Designed to bind the constant (Fc) region of immunoglobulins ensuring that the antigen binding domain of the antibody is orientated away from the plate, offering maximum exposure of the binding site. Protein A-G contains 4 binding sites from protein A and 2 from protein G offering maximum range of specificity and binding capacity. The immunoglobulin orientation improves the antibody capacity compared to plates that are coated directly with antibodies.

The plates are for single antibody assays and are not suitable for multiple assays (sandwich ELISAs) as the first antibody will not block all IgG binding sites and therefore false positives will occur with the second antibody.

The wells are coated to a 100µl depth and are supplied pre-blocked.

FEATURES
• Protein A/G has highest specificity and capacity
• Retains antibody activity & orients antibody for maximum binding
• Reduced non-specific binding
• Binds ~4pmol rabbit IgG/well

<table>
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<th>Description</th>
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</thead>
<tbody>
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<td>5 Plates</td>
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<tr>
<td>786-770</td>
<td>Well-Coated™ Protein A, 96 well plate, Black</td>
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<td>786-771</td>
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<td>786-733</td>
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<td>5 Plates</td>
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<td>786-775</td>
<td>Well-Coated™ Protein G, 96 well plate, White</td>
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<td>786-735</td>
<td>Well-Coated™ Protein A/G, 8-well strip plate, Clear</td>
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<td>786-772</td>
<td>Well-Coated™ Protein A/G, 96 well plate, Black</td>
<td>5 Plates</td>
</tr>
</tbody>
</table>

Table 1: Relative affinity of Protein A, Protein G and Protein A/G for immunoglobulins
Assay Development Accessories

Well-Coated™ Protein L

Bind kappa light chains of immunoglobulins

Designed to bind the kappa light chains of immunoglobulins without interfering with the antigen binding site. Well-Coated™ Protein L plates bind a greater range of immunoglobulin classes and subclasses compared to Protein A, G and A/G. Protein L will bind to all classes of IgG, including IgG, IgM, IgA, IgE and IgD, and binds to single chain variable fragments (scFv and Fab fragments).

The plates are for single antibody assays and are not suitable for multiple assays (sandwich ELISAs) as the first antibody will not block all IgG binding sites. The wells are coated to a 100µl depth and are supplied pre-blocked.

FEATURES
• Retains antibody activity
• Binds to all classes of IgG, including IgG, IgM, IgA, IgE and IgD
• Reduced non-specific binding as plates are pre-blocked

TECHNICAL INFORMATION
• Only binds kappa I, III and IV in human and kappa I in mouse
• May be specific for certain kappa subgroups in other species
• Binds scFv without interfering with antigen binding
• Has weak binding affinity for rabbit immunoglobulins
• No binding affinity for bovine, goat or sheep immunoglobulins
• No binding affinity for lambda light chains

DETECTION SUBSTRATES

femtoELISA™

Complete ELISA kits for detection of horseradish peroxidase or alkaline phosphatase

Although the principle of ELISA is very simple, the optimization and perfection of the assay is not. FemtoELISA™ contains all the crucial reagents necessary for a successful ELISA, including an enhanced blocking agent, washing buffer and an ultra sensitive colorimetric enzyme substrate.

Figure 13: Serial dilutions of HRP incubated with our ELISA substrate for 10 minutes

Our femto-ELISA™ kits use NAP-BLOCKER™ (non-animal protein) to minimize cross-reactivity with researcher’s antigens and antibodies.

For HRP detection, an improved, ultra sensitive, non-volatile, stable, colorimetric substrate based on tetramethyl benzidine (TMB). FemtoELISA™-HRP substrate does not require hydrogen peroxide that can have detrimental effects on assays.

For AP detection, a pNPP (p-nitrophenylphosphate) based substrate with superior stability compared to commonly used pNPP tablets and solutions is offered. The improved stability ensures minimal background absorbance over longer periods compared to normal pNPP substrates. Our AP substrate has superior sensitivity, is highly rapid and requires no preparation time.

OptiBlaze™ ELISA

High sensitivity chemiluminescence detection

Stabilized ultra sensitive luminal and 1,2 dioxytane based HRP or AP substrate for the detection of HRP or AP conjugated antibodies. OptiBlaze™ ELISA femto-HRP and -AP are chemiluminescent detection systems for ELISA. The chemiluminescent substrates provided in the kits are ultra sensitive substrates developed for luminometer-based applications, specific for HRP or AP labeled antibodies. The kit components are enough for performing 1,000 reactions as per the protocol.

FEATURES
• Stabilized substrates for increased stability
• Detect low femtogram to picogram levels of enzyme
• Premixed solutions

For further details, visit GBiosciences.com
# G-Biosciences Product Line Overview

## Estimation
- 7 Assays
  - CB-X
  - Non Interfering
  - GPA
  - RED 560
  - dotMETRIC
  - GBC
  - Sample Grinding
  - Lysis Buffers
  - 12 Fractionation Kits
  - Dialysis (Micro)
  - Concentration
  - Protease Inhibitors
  - Detergents
  - Chaotropes
  - 1D & 2D Reagents
  - Gel Stains
  - 1 Hour System
  - Coated Plates
  - Blocking Agents
  - Secondary Antibodies
  - Detection Reagents
  - Chemiluminescence Detection
  - Trypsin, Mass Spec Grade
  - InGel Kits
  - Blocking Agents
  - Secondary Antibodies
  - Detection Reagents
  - Ex Hi Tag
  - GST Tag
  - Biotin Tag
  - CRP Tag
  - Sulphydryl-reactive
  - Amine reactive
  - Carbonyl reactive
  - Drug/Stem Reactive
  - Protein A or G
  - Protein Resin
  - Biotin
  - Fluorescent Dye
  - Enzyme (HRP/AP)

## Isolation
- Fractionation & Enrichment
- Sample Preparation
- Reagents

## Detection
- Electrophoresis
- Western Blotting
- Mass Spectrometry
- Assays (ELISA)

## Purification
- Affinity Resins
- Activated Resins
- Antibody Purification

## Modification
- Labeling
  - Crosslinkers
  - Reducing Agents
  - Alkylation Agents
  - Protein Cleavage
  - Isolation
- Amino Acid Side Chain Modifiers

## Antibody
- Production
- Purification
- Fragmentation

## BioAssays
- SAM Methytransferase
- Cell Toxicity & Proliferation

## Apoptosis
- Caspase
  - Inducers
  - Assays
  - Inhibitors

## Protease Phosphatase
- Peroxidase

## B-Galactosidase

## Genomic DNA
- Isolation
  - Colony Screening
  - Transformation
  - Apparatus
  - Loading Dyes
  - DNA Ladders
  - Gel Extraction
  - Tag dNTPs
  - Extraction
  - RNase Decontamination
  - Transformation
  - Plasmid Isolation

## Molecular Biology
- PCR
- RNA
- Yeast

## Protein Research
- Assays
  - Substrates
  - Inhibitors

## Carbohydrate Research
- RSA
- KLH
- HyperCarrier

## Tissue
- Blood
- Plant
- Yeast
- Bacteria
- Fungal
- Mouse Tail