



G-Biosciences

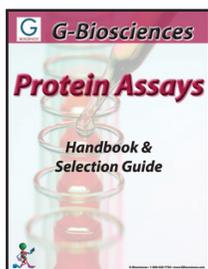
*Protein
Discovery*

*Handbook &
Selection Guide*



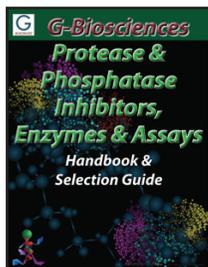
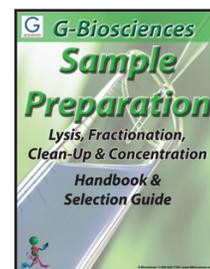
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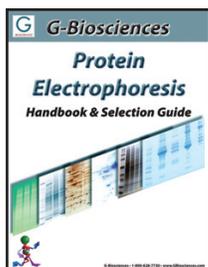
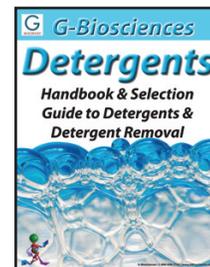
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- Cytotoxicity Assays
- SAM Methyltransferase Assays
- Protease Assays
- Phosphatase Assays
- Peroxide Assay

- Lysis Buffers & Systems
- Protein Fractionation Kits
- Dialysis (Micro) System
- Electrophoresis Clean-Up
- Concentration Systems
- Contamination Removal



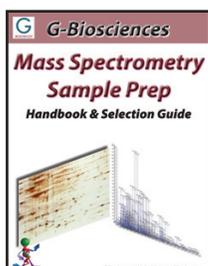
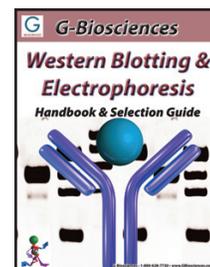
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- Non-Ionic, Ionic & Zwitterionic
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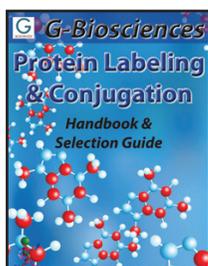
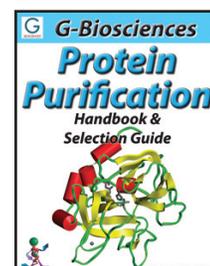
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- Blocking Buffers
- Secondary Antibodies
- Detection Reagents
- Reprobing Reagents



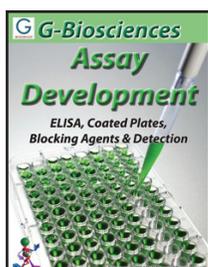
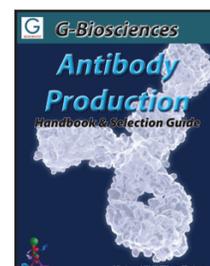
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- Peptide Generation Reagents

- Affinity Resins
- 6X His Protein Purification Kits
- GST Protein Purification Kits
- Antibody Purification
- Activated Resins
- Buffers & Reagents



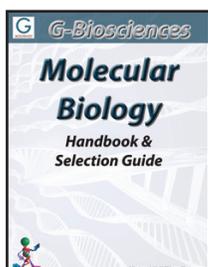
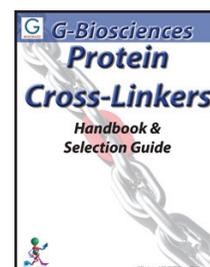
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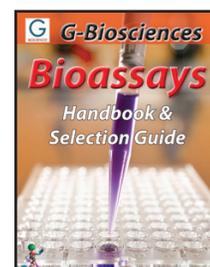
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Total protein lysates from various species, including tumor tissue lysates

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, macaque, rabbit, pig and other mammalian tissues

Brain Lysates

Cat. No.	Region	Species	Tissue Type
82021-732	Whole	Human	Normal
82022-108	Cerebellum	Human	Normal
82022-104	Frontal Cortex	Human	Normal
82022-100	Hippocampus	Human	Normal
82022-096	Medulla	Human	Normal
82022-076	Mid Brain	Human	Normal
82022-120	Olfactory Lobe	Human	Normal
82022-074	Pons	Human	Normal
82022-080	Posterior Cortex	Human	Normal
82022-116	Striatum	Human	Normal
82022-088	Temporal Lobe	Human	Normal
82022-084	Thalamus	Human	Normal
82021-812	Whole	Mouse	Normal
82022-170	Cerebellum	Mouse	Normal
82022-154	Entorhinal Cortex Region	Mouse	Normal
82022-166	Frontal Cortex	Mouse	Normal
82022-162	Hippocampus	Mouse	Normal
82022-158	Medulla	Mouse	Normal
95029-334	Mid Brain	Mouse	Normal
82022-182	Olfactory Lobe	Mouse	Normal
82022-140	Pons	Mouse	Normal
82022-144	Posterior Cortex	Mouse	Normal
82022-178	Striatum	Mouse	Normal
82022-148	Thalamus	Mouse	Normal
82021-950	Amygdala	Macaque	Normal
82021-968	Cingulate Gyrus	Macaque	Normal
82021-946	Cerebellum	Macaque	Normal
82021-966	Frontal Cortex	Macaque	Normal
82021-930	Hippocampus	Macaque	Normal
82021-938	Hypothalamus	Macaque	Normal
82021-954	Medulla	Macaque	Normal
82021-958	Occipital Lobe	Macaque	Normal
82021-962	Parahippocampal Gyrus	Macaque	Normal
82021-972	Parietal Lobe	Macaque	Normal
95029-324	Pituitary	Macaque	Normal
82021-934	Pons	Macaque	Normal
82021-926	Striatum	Macaque	Normal
82021-942	Temporal Lobe	Macaque	Normal
82021-922	Thalamus	Macaque	Normal
82021-878	Whole	Rat	Normal
82022-254	Cerebellum	Rat	Normal
82022-238	Entorhinal Cortex Region	Rat	Normal
82022-250	Frontal Cortex	Rat	Normal
82022-246	Hippocampus	Rat	Normal
82022-242	Medulla	Rat	Normal
82022-224	Mid Brain	Rat	Normal
82022-266	Olfactory Lobe	Rat	Normal
95029-336	Pons	Rat	Normal
82022-228	Posterior Cortex	Rat	Normal
82022-262	Striatum	Rat	Normal
82022-232	Thalamus	Rat	Normal

Breast Lysates

Cat. No.	Region	Species	Tissue Type
82021-772	Whole	Human	Normal
82022-316	Whole	Human	Tumor

Cervix Lysates

Cat. No.	Region	Species	Tissue Type
82021-788	Whole	Human	Normal
82022-332	Whole	Human	Tumor

Colon Muscle Lysates

Cat. No.	Region	Species	Tissue Type
82021-800	Whole	Human	Normal
82022-344	Whole	Human	Tumor

Esophagus Lysate

Cat. No.	Region	Species	Tissue Type
95029-322	Whole	Human	Normal

Eye Lysates

Cat. No.	Region	Species	Tissue Type
82021-708	Whole	Rabbit	Normal
82023-124	Aqueous Humor	Rabbit	Normal
82023-120	Cornea	Rabbit	Normal
82023-116	Retina	Rabbit	Normal
82021-914	Whole	Rat	Normal
82022-286	Aqueous Humor	Rat	Normal
82022-282	Cornea	Rat	Normal
82022-278	Retina	Rat	Normal

Heart Lysates

Cat. No.	Region	Species	Tissue Type
82021-756	Whole	Human	Normal
95029-330	Aorta	Human	Normal
82022-132	Atrium (Left)	Human	Normal
82022-136	Atrium (Right)	Human	Normal
95029-332	Vena Cava	Human	Normal
82022-124	Ventricle (Left)	Human	Normal
82022-128	Ventricle (Right)	Human	Normal
82021-836	Whole	Mouse	Normal
95029-320	Whole	Pig	Normal
82022-220	Aorta	Pig	Normal
82022-212	Aortic Valve	Pig	Normal
82022-204	Mitral Valve	Pig	Normal
82022-208	Pulmonary Valve	Pig	Normal
82022-216	Tricuspid Valve	Pig	Normal
82022-196	Ventricle (Left)	Pig	Normal
82022-200	Ventricle (Right)	Pig	Normal
82021-704	Whole	Rabbit	Normal
82021-906	Whole	Rat	Normal

Hypopharynx Lysates

Cat. No.	Region	Species	Tissue Type
82021-780	Whole	Human	Normal
82022-324	Whole	Human	Tumor

Kidney Lysates

Cat. No.	Region	Species	Tissue Type
82021-740	Whole	Human	Normal
82021-820	Whole	Mouse	Normal
82022-190	Cortex	Mouse	Normal
82022-186	Medulla	Mouse	Normal
82021-700	Whole	Rabbit	Normal
82021-888	Whole	Rat	Normal
82022-274	Cortex	Rat	Normal
82022-270	Medulla	Rat	Normal

Liver Lysates

Cat. No.	Region	Species	Tissue Type
82021-728	Whole	Human	Normal
82022-288	Whole	Human	Tumor
82021-676	Whole	Macaque	Normal
82021-808	Whole	Mouse	Normal
82021-620	Smooth ER Fraction	Mouse	Normal
82021-618	Rough ER Fraction	Mouse	Normal
82021-616	Nuclear Fraction	Mouse	Normal
82021-614	Mitochondrial Fraction	Mouse	Normal
82021-622	Golgi Complex Fraction	Mouse	Normal
82021-684	Whole	Pig	Normal
82021-692	Whole	Rabbit	Normal
82021-874	Whole	Rat	Normal

Lung Lysates

Cat. No.	Region	Species	Tissue Type
82021-736	Whole	Human	Normal
82022-292	Whole	Human	Tumor
82021-816	Whole	Mouse	Normal
82021-696	Whole	Rabbit	Normal
82021-882	Whole	Rat	Normal

Ovary Lysates

Cat. No.	Region	Species	Tissue Type
82021-752	Whole	Human	Normal
82022-300	Whole	Human	Tumor
82021-832	Whole	Mouse	Normal
82021-902	Whole	Rat	Normal

Pancreas Lysates

Cat. No.	Region	Species	Tissue Type
82021-760	Whole	Human	Normal
82022-304	Whole	Human	Tumor
82021-840	Whole	Mouse	Normal
82021-910	Whole	Rat	Normal

Prostate Lysates

Cat. No.	Region	Species	Tissue Type
82021-776	Whole	Human	Normal
82022-320	Whole	Human	Tumor

Rectum Lysates

Cat. No.	Region	Species	Tissue Type
82021-784	Whole	Human	Normal
82022-328	Whole	Human	Tumor

Skeletal Muscle Lysates

Cat. No.	Region	Species	Tissue Type
82021-804	Whole	Human	Normal
82021-712	Whole	Rabbit	Normal

Skin Lysates

Cat. No.	Region	Species	Tissue Type
82021-792	Whole	Human	Normal
82022-336	Whole	Human	Tumor

Spinal Cord Lysates

Cat. No.	Region	Species	Tissue Type
82022-112	Whole	Human	Normal
82022-174	Whole	Mouse	Normal
82021-918	Whole	Macaque	Normal
82022-258	Whole	Rat	Normal

Spleen Lysates

Cat. No.	Region	Species	Tissue Type
82021-744	Whole	Human	Normal
82021-824	Whole	Mouse	Normal
82021-894	Whole	Rat	Normal

Stomach Lysates

Cat. No.	Region	Species	Tissue Type
82021-768	Whole	Human	Normal
82022-312	Whole	Human	Tumor

Testis Lysates

Cat. No.	Region	Species	Tissue Type
82021-748	Whole	Human	Normal
82022-296	Whole	Human	Tumor
82021-828	Whole	Mouse	Normal
82021-898	Whole	Rat	Normal

Thyroid Lysates

Cat. No.	Region	Species	Tissue Type
82021-796	Whole	Human	Normal
82022-340	Whole	Human	Tumor

Uterus Lysates

Cat. No.	Region	Species	Tissue Type
82021-764	Whole	Human	Normal
82022-308	Whole	Human	Tumor

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.

Cat. No.	Tissue	Species	Tissue Type
82021-772	Breast	Human	Normal
82022-316	Breast	Human	Tumor
82021-788	Cervix	Human	Normal
82022-332	Cervix	Human	Tumor
82021-800	Colon	Human	Normal
82022-344	Colon	Human	Tumor
82021-780	Hypopharynx	Human	Normal
82022-324	Hypopharynx	Human	Tumor
82021-728	Liver	Human	Normal
82022-288	Liver	Human	Tumor
82021-736	Lung	Human	Normal
82022-292	Lung	Human	Tumor
82021-752	Ovary	Human	Normal
82022-300	Ovary	Human	Tumor
82021-760	Pancreas	Human	Normal
82022-304	Pancreas	Human	Tumor
82021-776	Prostate	Human	Normal
82022-320	Prostate	Human	Tumor
82021-784	Rectum	Human	Normal
82022-328	Rectum	Human	Tumor
82021-792	Skin	Human	Normal
82022-336	Skin	Human	Tumor
82021-768	Stomach	Human	Normal
82022-312	Stomach	Human	Tumor
82021-748	Testis	Human	Normal
82022-296	Testis	Human	Tumor
82021-796	Thyroid	Human	Normal
82022-340	Thyroid	Human	Tumor
82021-764	Uterus	Human	Normal
82022-308	Uterus	Human	Tumor

BACTERIAL GENLYSATE™

A range of whole and region-specific total protein

Cat. No.	Species	Region	Tissue Type
82021-690	E. coli	Whole	Normal

BIRD GENLYSATE™

A range of whole and region-specific total protein

Cat. No.	Species	Region	Tissue Type
82021-716	Chicken	Liver	Normal
82021-720	Chicken	Lung	Normal
82021-724	Chicken	Heart	Normal

FISH GENLYSATE™

A range of whole and region-specific total protein

Cat. No.	Species	Region	Tissue Type
82021-664	Trout, Salmo trutta trutta	Liver	Normal

FROG GENLYSATE™

A range of whole and region-specific total protein

Cat. No.	Species	Region	Tissue Type
82021-672	Frog	Liver	Normal

INSECT GENLYSATE™

A range of whole and region-specific total protein

Cat. No.	Species	Region	Tissue Type
82021-660	Drosophila melanogaster	Whole	Normal

MARSUPIAL GENLYSATE™

A range of whole and region-specific total protein

Cat. No.	Species	Region	Tissue Type
82021-844	Opossum	Liver	Normal
82021-850	Opossum	Lung	Normal
82021-854	Opossum	Kidney	Normal
82021-858	Opossum	Spleen	Normal
82021-862	Opossum	Heart	Normal
82021-866	Opossum	Pancreas	Normal
82021-870	Opossum	Skeletal muscle	Normal

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

Cat. No.	Species	Region
95029-326	Green Algae	Whole Plant
82021-994	Barley	Whole Plant
82021-998	Corn	Whole Plant
82022-002	Rye Grass	Whole Plant
82022-006	Oat	Whole Plant
82022-010	Wheat	Whole Plant
82022-014	Soy	Whole Plant
82022-018	Mung	Whole Plant
82022-022	Sunflower	Whole Plant
82022-026	Cotton	Whole Plant
82022-030	Beet	Whole Plant
82022-034	Tomato	Whole Plant
82022-038	Spinach	Whole Plant
82022-042	Arabidopsis thaliana	Whole Plant

WORM GENLYSATE™

A range of whole and region-specific total protein

Cat. No.	Species	Region	Tissue Type
82021-688	Earthworm	Whole	Normal

YEAST GENLYSATE™

A range of whole and region-specific total protein

Cat. No.	Species	Region	Tissue Type
82021-990	Yeast, Saccharomyces cerevisiae	Whole	Normal

Premade Western Blots

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
 - c. 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

Human Normal Tissue Blots

Cat. No.	Tissue	Normal/Tumor
82023-142	Brain	Normal
95029-342	Breast	Normal
95029-350	Cervix	Normal
95029-356	Colon	Normal
95029-360	Esophagus	Normal
82023-172	Heart	Normal
95029-346	Hypopharynx	Normal
82023-148	Kidney	Normal
82023-130	Liver	Normal
82023-136	Lung	Normal
82023-160	Ovary	Normal
82023-166	Pancreas	Normal
95029-348	Rectum	Normal
95029-358	Skeletal Muscle	Normal
95029-352	Skin	Normal
82023-178	Spleen	Normal
95029-340	Stomach	Normal
82023-154	Testis	Normal
95029-354	Thyroid	Normal
95029-338	Uterus	Normal
95029-344	Prostate	Normal

Human Tumor Tissue Blots

Cat. No.	Tissue	Normal/Tumor	Cat. No.	Tissue	Normal/Tumor
95029-366	Brain	Tumor	95029-374	Pancreas	Tumor
95029-384	Breast	Tumor	95029-388	Rectum	Tumor
95029-390	Cervix	Tumor	95029-398	Skeletal Muscle	Tumor
95029-396	Colon	Tumor	95029-392	Skin	Tumor
95029-400	Esophagus	Tumor	95029-378	Spleen	Tumor
95029-386	Hypopharynx	Tumor	95029-382	Stomach	Tumor
95029-368	Kidney	Tumor	95029-370	Testis	Tumor
95029-362	Liver	Tumor	95029-394	Thyroid	Tumor
95029-364	Lung	Tumor	95029-380	Uterus	Tumor
95029-372	Ovary	Tumor			

Mouse Blots

Cat. No.	Tissue	Normal/Tumor
82023-144	Brain	Normal
82023-174	Heart	Normal
82023-150	Kidney	Normal
82023-132	Liver	Normal
82023-138	Lung	Normal
82023-162	Ovary	Normal
82023-168	Pancreas	Normal
82023-180	Spleen	Normal
82023-156	Testis	Normal

Rat Blots

Cat. No.	Tissue	Normal/Tumor
82023-146	Brain	Normal
82023-176	Heart	Normal
82023-152	Kidney	Normal
82023-134	Liver	Normal
82023-140	Lung	Normal
82023-164	Ovary	Normal
82023-170	Pancreas	Normal
82023-182	Spleen	Normal
82023-158	Testis	Normal

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.

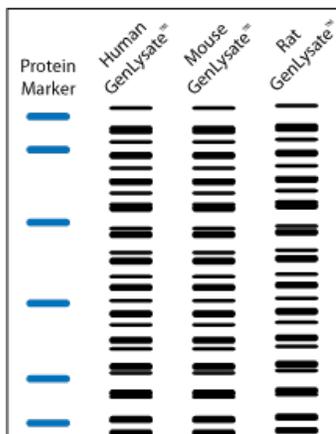


Figure 2: Single Tissue Blot; Multiple Species

Cat. No.	Species	Tissue
82023-188	Human, Mouse, Rat	Brain
82023-198	Human, Mouse, Rat	Heart
82023-190	Human, Mouse, Rat	Kidney
82023-184	Human, Mouse, Rat	Liver
82023-186	Human, Mouse, Rat	Lung
82023-194	Human, Mouse, Rat	Ovary
82023-196	Human, Mouse, Rat	Pancreas
82023-200	Human, Mouse, Rat	Spleen
82023-192	Human, Mouse, Rat	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.

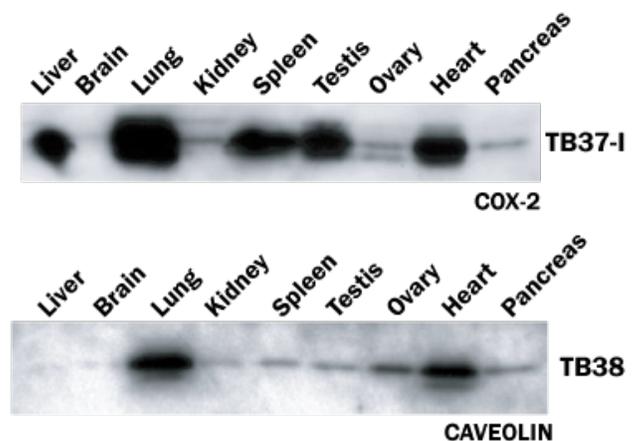


Figure 3: Human multiple tissue blot (TB37-I) was probed with antibodies specific for Cox-2 and mouse multiple tissue blot was probed with antibodies to caveolin.

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Cat. No.	Tissues	Species
82023-202	Liver, Brain, Lung, Kidney, Spleen, Testis, Ovary, Heart, Pancreas	Human
82023-204	Uterus, Breast, Cervix, Rectum, Prostate, Thyroid, Hypopharynx, Stomach, Skin	Human
82023-206	Liver, Brain, Lung, Kidney, Spleen, Testis, Ovary, Heart, Pancreas	Mouse
82023-208	Liver, Brain, Lung, Kidney, Spleen, Testis, Ovary, Heart, Pancreas	Rat

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:

Cat. No.	82023-210	82023-212	82023-246	82023-248
Species	Mouse	Rat	Human	Macaque
Tissue				
Amygdala				X
Cerebellum	X	X	X	X
Cingulate Gyrus				X
Entorhinal Cortex	X	X		
Frontal Cortex	X	X	X	
Frontal Lobe				X
Hippocampal Gyrus				X
Hippocampus	X	X	X	X
Hypothalamus				X
Medulla	X	X	X	X
Midbrain	X	X	X	
Occipital Lobe				X
Olfactory Bulb	X	X	X	
Parietal Lobe				X
Pons	X	X	X	X
Posterior Cortex	X	X	X	
Spinal Cord	X	X	X	
Striatum	X	X	X	X
Temporal Lobe			X	X
Thalamus	X	X	X	X
Whole Brain	X	X	X	

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.

Cat. No.	Tissues	Species
82023-214	Whole kidney, medulla, cortex	Mouse
82023-216	Whole kidney, medulla, cortex	Rat

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.

Cat. No.	Tissues	Species
82023-222	Whole Heart, Left Ventricle, Right Ventricle, Aortic Valve, Pulmonary Valve, Mitral Valve, Aorta, Tricuspid Valve	Pig
82023-128	Whole Heart, Left Atrium, Right Atrium, Left Ventricle, Right Ventricle	Human

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.

Cat. No.	Tissues	Species
82023-218	Whole eye, retina, cornea, aqueous humor	Rat
82023-220	Whole eye, retina, cornea, aqueous humor	Rabbit

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:

Cat. No.	Tissues	Species
82023-224	Whole Liver Nuclei Mitochondria Golgi Complex Smooth Endoplasmic Reticulum Rough Endoplasmic Reticulum	Mouse

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:

Cat. No.	Tissue
82022-768	Green Algae, Yeast, Barley, Sweet Corn, Rye Grass, Oat, Wheat, Soy, Mung, Sunflower, Cotton, Beet, Tomato, Spinach

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:

Cat. No.	Tissue
95043-450	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)

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:

Cat. No.	Cell Lines
82023-230	Epithelial Cells: Mammary Epithelial Cells (HMEC) Renal Cortical Epithelial Cells (HRCE) Renal Proximal Tubule Epithelial Cells (RPTEC) Bronchial Epithelial cells (NHBE) Prostate Epithelial Cells (PREC)
	Endothelial Cells: 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)
	Skin Cells: 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 (HMVECd-Ad) Microvascular Endothelial Neo (HMVECd-Neo)
	Muscle Cells: 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 (UtSMC) Skeletal Muscle Cells (SKMC)

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:

Cat. No.	Cell Lines
82023-240	Acute promyelocytic leukemia (HL-60) B cell lymphoma (BJAB) T lymphocyte lymphoma (HUT-78) Hepatoblastoma (HepG2) Mammary adenocarcinoma (MCF7) Amelanotic melanoma (C32) Acute T cell leukemia (JURKAT) Epithlioid carcinoma (HeLa) Epidermoid carcinoma (A-431) Neuroepithelioma (SK-N-MC) Burkitt's lymphoma (Ramos) Prostate adenocarcinoma (LNCap) Chronic myelogenous leukemia (K562)

HUMAN TUMOR TISSUE BLOTS

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

Cat. No.	Tissue	Normal/Tumor
82023-238	Ovary, Lung, Liver, Rectum, Cervix, Skin, Testis, Thyroid, Uterus, Stomach, Breast, Prostate, Pancreas, Hypopharynx	Tumor
82023-244	Uterus, Breast, Cervix, Ovary, Testis, Prostate, Rectum	Normal & Tumor
82023-242	Liver, Lung, Pancreas, Stomach, Thyroid, Skin, Hypopharynx	Normal & Tumor
95029-366	Brain	Tumor
95029-384	Breast	Tumor
95029-390	Cervix	Tumor
95029-396	Colon	Tumor
95029-400	Esophagus	Tumor
95029-386	Hypopharynx	Tumor
95029-368	Kidney	Tumor
95029-362	Liver	Tumor
95029-364	Lung	Tumor
95029-372	Ovary	Tumor
95029-374	Pancreas	Tumor
95029-388	Rectum	Tumor
95029-398	Skeletal Muscle	Tumor
95029-392	Skin	Tumor
95029-378	Spleen	Tumor
95029-382	Stomach	Tumor
95029-370	Testis	Tumor
95029-394	Thyroid	Tumor
95029-380	Uterus	Tumor
95029-406	Brain	Normal & Tumor
95029-408	Kidney	Normal & Tumor
95029-402	Liver	Normal & Tumor
95029-404	Lung	Normal & Tumor
95029-412	Ovary	Normal & Tumor
95029-414	Pancreas	Normal & Tumor
95029-418	Spleen	Normal & Tumor
95029-410	Testis	Normal & Tumor

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.

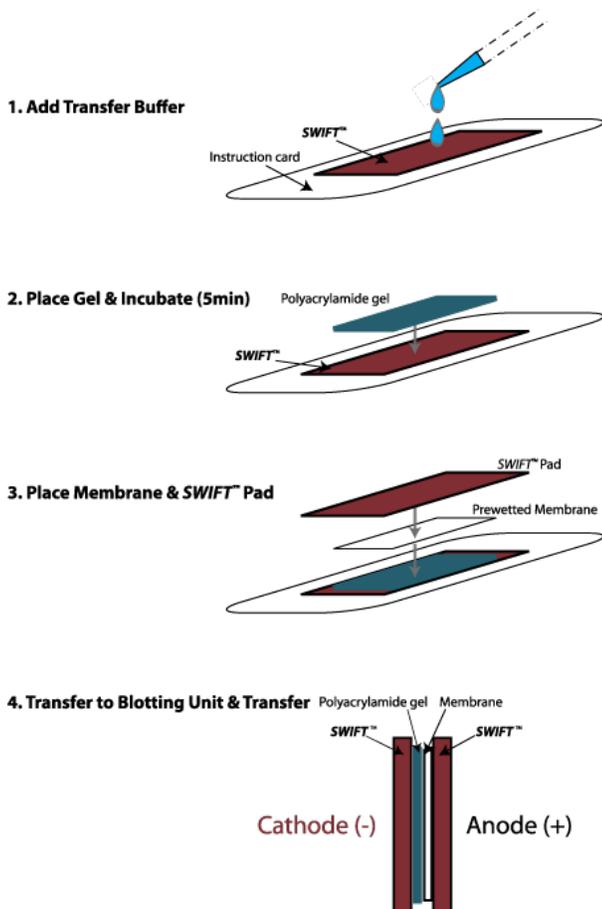


Figure 4: SWIFT™ transfer pad scheme.

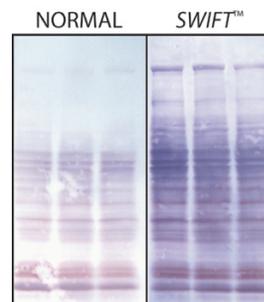


Figure 5: Increased efficiency in protein transfer by SWIFT™ transfer pad. 15µg mouse liver lysate was transferred normally (left) or with a SWIFT™ transfer pad (right) for 30 minutes and the resulting membranes were stained for protein with BLOT-FastStain™.

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

Cat. No.	Description	Size
78000-006	SWIFT™ Mini transfer pad	10
78000-008	SWIFT™ Mini transfer pad with nitrocellulose	10
78000-010	SWIFT™ Mini transfer pad with PVDF	10
78000-012	SWIFT™ Medi transfer pad	5
78000-014	SWIFT™ Medi transfer pad with nitrocellulose	5
78000-016	SWIFT™ Medi transfer pad with PVDF	5

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.

Cat. No.	Description	Size
82023-288	Nitrocellulose membrane & padding (7.5 x 8.5cm)	20
82021-226	PVDF membrane & padding (7.5 x 8.5cm)	20
82023-292	Nitrocellulose membrane & padding (10 x 10cm)	10
82021-258	PVDF membrane & padding (10 x 10cm)	10

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.

Cat. No.	Description	Size
82021-236	Efficient™ Western Transfer Buffer [20X]	1L

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 completely 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).

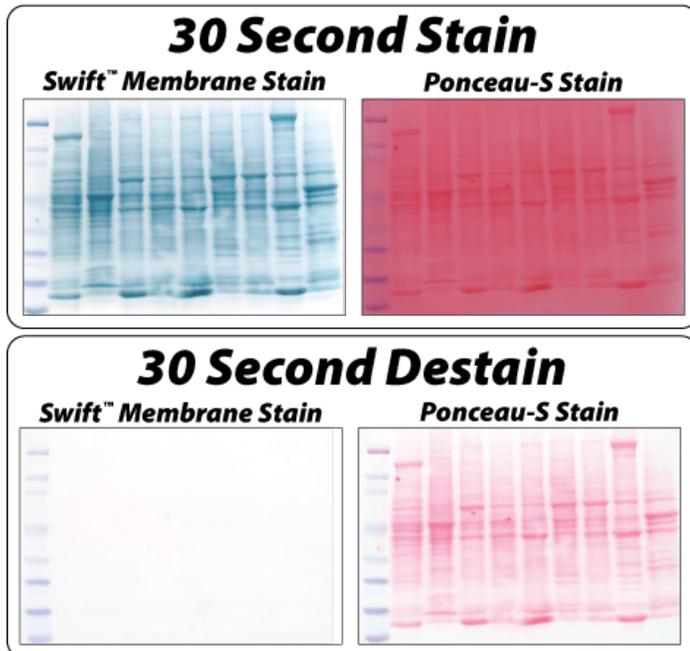


Figure 6: A normal rat multiple tissue blot was probed with Swift™ Membrane Stain or Ponceau-S, using the procedure in "The Protein Protocols Handbook." In both instances, the membranes were incubated with the respective stain for 30 seconds, rinsed in DI water, and destained as instructed for 30 seconds. Ponceau-S was successfully destained after >1 hour.

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

CITED REFERENCES

Kruger, N.J. (1996) Detection of Polypeptides on Blots Using Secondary Antibodies or Protein A. In J. M. Walker (Ed.), *The Protein Protocols Handbook* (pp. 313-321). New Jersey: Humana Press

Cat. No.	Description	Size
89167-886	SWIFT™ Membrane Stain	20 blots

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

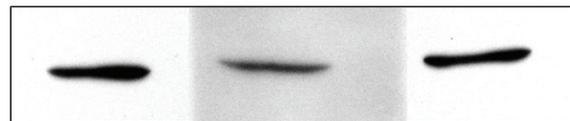


Figure 7: Comparison of NAP-BLOCKER™ and milk powder. Protein lysates were transferred to PVDF membranes and blocked for 90 minutes. The membranes were probed for actin and subsequently exposed to film for 20 minutes.

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

Singh, C. P. et al (2012) *J. Virol.* 86:7867
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 Shulby, S. et al (2004) *Cancer Res.* 64:4693
 Qin, M. et al (2003) *Clin. Cancer Res.* 9:4992
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 Chrysis, D. et al (2001) *J. Neurosci.* 21:1481
 Thomas, R. et al (2000) *Clin. Cancer Res.* 6:1140
 Ginkel, L. et al (2000) *Mol. Biol. Cell.* 11:4143

Cat. No.	Description	Size
82022-626	NAP-BLOCKER™ [2X]	2 x 500ml
82023-282	NAP-BLOCKER™ in PBS [2X]	2 x 500ml
82023-284	NAP-BLOCKER™ in TBS [2X]	2 x 500ml

For further details, visit VWR.com

Western Blotting Accessories

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

Cat. No.	Description	Size
89167-862	Protein-Free Blocking Buffer-PBS	500ml
89167-864	Protein-Free Blocking Buffer-PBST	500ml
89167-858	Protein-Free Blocking Buffer-TBS	500ml
89167-860	Protein-Free Blocking Buffer-TBST	500ml

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

Cat. No.	Description	Size
89167-870	FirstChoice™ Blocking Buffer-PBS	500ml
89167-872	FirstChoice™ Blocking Buffer-PBST	500ml
89167-866	FirstChoice™ Blocking Buffer-TBS	500ml
89167-868	FirstChoice™ Blocking Buffer-TBST	500ml

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

Roth, K.M. et al (2009) *Int. Immunol.* 21:19
Sow, F. et al (2009) *J Leukoc Biol* 86:1247
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Cat. No.	Description	Size
82021-234	BLOT-QuickBlocker™	175g

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 mammalian protein to eliminate non-specific binding
- High signal to background ratio
- Ready-to-use

APPLICATIONS

- Suitable for Western blot and ELISA applications

Cat. No.	Description	Size
89167-882	FISH-Blocker™ in PBS	500ml
89167-880	FISH-Blocker™ in TBS	500ml

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'-Indolylphosphate 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

Cat. No.	Description	Size
89167-854	Superior™ Blocking Buffer in PBS	500ml
89167-856	Superior™ Blocking Buffer in PBST	500ml
89167-850	Superior™ Blocking Buffer in TBS	500ml
89167-852	Superior™ Blocking Buffer in TBST	500ml
89167-808	Superior™ Blocking Buffer-Dry Blend in PBS	5 packs
89167-848	Superior™ Blocking Buffer-Dry Blend in TBS	5 packs
89167-846	Superior™ Blocking Buffer for Precipitating Substrate in PBS	500ml
89167-844	Superior™ Blocking Buffer for Precipitating Substrate in TBS	500ml

ENZYME CONJUGATED SECONDARY ANTIBODIES

We offer a range of secondary antibodies conjugated to either alkaline phosphatase or horseradish peroxidase. The antibodies are isolated from antisera by immuno-affinity chromatography using antigen coupled to sepharose beads. They are supplied lyophilized from a buffer containing 0.01M sodium phosphate, 0.25M sodium chloride (pH 7.1), with 15 mg/mL Bovine Serum Albumin (BSA) and 0.01% thimerosal.

FEATURES

- Antigen: IgG
- Host: Goat; Rabbit
- Reactivity: Mouse; Goat; Rat; Rabbit; Human
- Recommended Working Dilutions:
 - ELISA and Western blots: 1:5,000 to 1:100,000
 - Immunohistochemistry: 1:500 to 1:5,000

APPLICATIONS

- For antibody conjugation to labeled molecules

CITED REFERENCES

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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.

Cat. No.	Description	Size
82022-748	Horseradish peroxidase (HRP) labeled goat α-human IgG	2ml
82022-742	HRP labeled goat α-mouse IgG	2ml
82022-744	HRP labeled goat α-rabbit IgG	2ml
82022-746	HRP labeled goat α-rat IgG	2ml
82022-750	HRP labeled rabbit α-goat IgG	1.5ml
82022-762	HRP labeled rabbit α-human IgG	1.5ml

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.

Cat. No.	Description	Size
82022-758	Alkaline phosphatase (AP) labeled goat α-human IgG	1ml
82022-752	AP labeled goat α-mouse IgG	1ml
82022-754	AP labeled goat α-rabbit IgG	1ml
82022-756	AP labeled goat α-rat IgG	1ml
82022-760	AP labeled rabbit α-goat IgG	1ml
82022-764	AP labeled rabbit α-human IgG	1ml

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, chloronaphthol and DAB. Supplied as a 5X solution; uses 15-20ml for each standard (7.5 x 8.5cm) Western blots.

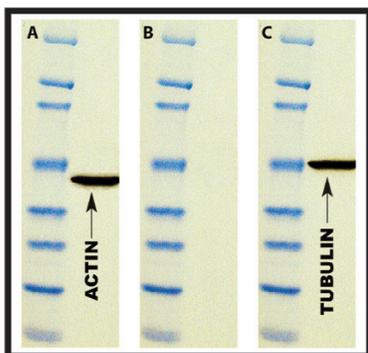


Figure 8: Mouse liver extract was transferred onto PVDF membrane and first probed for actin, then stripped with Western ReProbe™ and subsequently screened for tubulin antigens. Tubulin band was developed without loss of signal or background problems.

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

Cat. No.	Description	Size
82022-512	Western ReProbe™ [5X]	100ml
71003-118	Western ReProbe™ [5X]	500ml
71003-120	Western ReProbe™ [5X]	1L

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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, chloronaphthol 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

Cat. No.	Description	Size
71003-122	Western ReProbe™ PLUS	500ml
71003-124	Western ReProbe™ PLUS	1L
71003-126	Western ReProbe™ PLUS	1gal

femtoLUCENT™ PLUS

Highly sensitive detection system

A femtogram level sensitive immunodetection system allows users the option to detect even hard-to-detect low abundance proteins. This immunodetection system is based on an innovative formulation of luminol and 1,2 dioxetane supersensitive detection reagent and a unique, proprietary combination of blocking agent (NAP-BLOCKER™) and washing buffers to ensure low background and high signal to background ratio. Optional horseradish peroxidase (HRP) or alkaline phosphatase (AP) conjugated secondary antibodies against mouse, rabbit, human, rat and goat are also offered for a complete chemiluminescence detection system.

femtoLUCENT™ PLUS is offered as an immunodetection system with all of the critical reagents needed for Western blots or dot-blot analysis or as a reagent kit for those who prefer to customize their detection methods with their own secondary antibody conjugates.

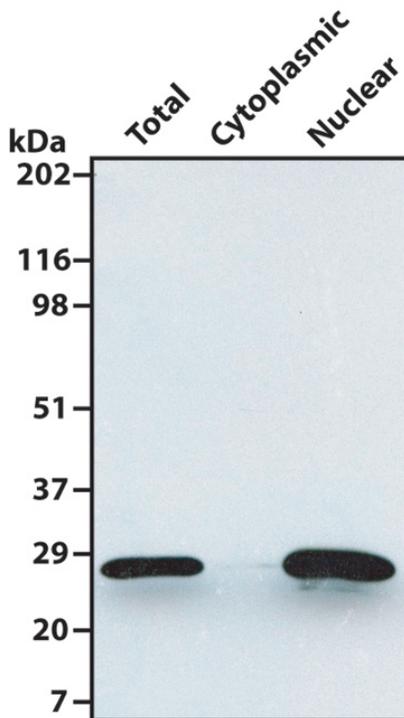


Figure 9: NIH3T3 cells were fractionated with FOCUS™ Cytoplasmic & Nuclear Extraction kit. The fractions were resolved and blotted. The blot was probed with α-caveolin and the protein visualized with femtoLUCENT™ PLUS system.

FEMTOLUCENT™ PLUS KIT INCLUDES

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

FEATURES

All of the critical reagents provide:

- Economical: greater value compared to similar products
- Intense light emission with low background:high signal ratio
- Low femtogram detection (10^{-15}): >10fg protein on a dot blot and >1pg on a Western blot
- Supplied with NAP-BLOCKER™ for rapid blocking and clear background
- Suitable for nitrocellulose & PVDF membranes

APPLICATIONS

- For Western blots and dot blot applications

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Cat. No.	Size (For cm ²)	Enzyme Conjugated Secondary Antibodies	NAP-BLOCKER™ & femtoTBST™ Wash Buffer
femtoLUCENT™ PLUS for Horseradish Peroxidase (HRP)			
89167-702	1,500	-	-
82022-458	1,500	-	Yes
95043-410	300	-	Yes
71003-078	1,500	HRP-goat α-human antibody	Yes
71003-080	1,500	HRP-goat α-mouse antibody	Yes
71003-082	1,500	HRP-goat α-rabbit antibody	Yes
71003-084	1,500	HRP-goat α-rat antibody	Yes
95043-392	1,500	HRP-rabbit α-human antibody	Yes
82022-492	1,500	HRP-rabbit α-goat antibody	Yes
femtoLUCENT™ PLUS for Alkaline Phosphatase (AP)			
82022-460	1,500	-	Yes
95043-412	300	-	Yes
95029-148	1,500	AP-goat α-human antibody	Yes
95029-150	1,500	AP-rabbit α-human antibody	Yes
82022-494	1,500	AP-goat α-mouse antibody	Yes
82022-496	1,500	AP-goat α-rabbit antibody	Yes
95029-146	1,500	AP-goat α-rat antibody	Yes
82022-498	1,500	AP-rabbit α-goat antibody	Yes

Western Blotting Accessories

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 1hr 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 result 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.

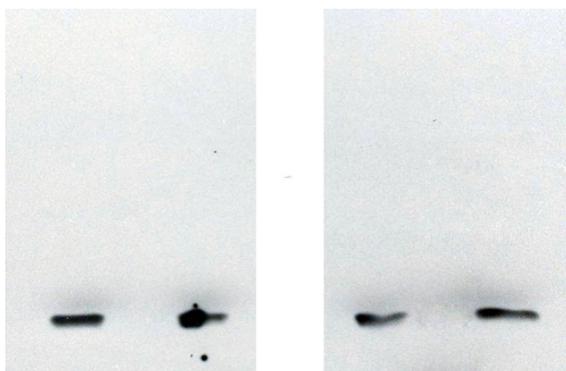


Figure 10: Traditional Western blotting compared to SWIFT™ Western Diluent. Left. Traditional Western blotting method showing the actin protein in liver and lung lysates. Right. SWIFT™ Western Diluent was used to eliminate the blocking step and developed comparable actin protein bands and clean background.

FEATURES

- Affordable: Single reagent
- Fast: Reduce blot development to <90 mins
- Versatile: Compatible with all combinations of primary and secondary antibodies
- For all wet, semi-dry and automated blotting systems

Cat. No.	Description	Size
71003-234	SWIFT™ Western Diluent	8 blots
89167-736	SWIFT™ Western Blotting System	8 blots

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

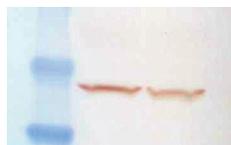


Figure 11: Detection with femtoCHROMO™. Human lysates were transferred to a PVDF membrane, which was probed with actin and alkaline phosphatase labeled goat anti-mouse antibodies. Membrane was probed with femtoCHROMO™-AP substrate.

Cat. No.	Size (For cm ²)	Goat AP Conjugated Secondary Antibodies	BLOT-QuickBlocker™ & femtoTBST™ Wash Buffer
femtoCHROMO™-AP for Alkaline Phosphatase (AP)			
78000-064	4,000	-	-
78000-066	4,000	-	Yes
78000-068	4,000	α-mouse antibody	Yes
78000-070	4,000	α-rabbit antibody	Yes
78000-072	4,000	α-mouse antibody α-rabbit antibody	Yes

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

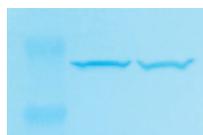


Figure 12: Detection with femtoCHROMO™. Human lysates were transferred to a PVDF membrane, which was probed with actin and horseradish peroxidase labeled goat anti-mouse antibodies. Membrane was probed femtoCHROMO™-HRP substrate.

CITED REFERENCES

Bettegowda, A. et al (2007) PNAS 104: 17602

Cat. No.	Size (for cm ²)	Goat HRP Conjugated Secondary Antibodies	BLOT-QuickBlocker™ & femtoTBST™ Wash Buffer
femtoCHROMO™-HRP for Horseradish peroxidase (HRP)			
78000-074	4,000	-	-
78000-076	4,000	-	Yes
78000-078	4,000	α-mouse antibody	Yes
78000-080	4,000	α-rabbit antibody	Yes
78000-082	4,000	α-mouse antibody α-rabbit antibody	Yes

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**
 - a. Well-Coated™ Neutravidin™
 - b. Well-Coated™ Streptavidin
 - c. Well-Coated™ Biotin
2. **For Protein/Peptide Binding**
 - a. Well-Coated™ Nickel
 - b. Well-Coated™ Glutathione
 - c. Well-Coated™ Amine Binding
 - c. Well-Coated™ Sulfhydryl Binding
3. **For Antibody Binding**
 - a. Well-Coated™ Protein A, Protein G and Protein A/G
 - b. Well-Coated™ Protein L
 - c. Well-Coated™ Protein Antibody (goat α-mouse; goat α-rabbit)

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 pI (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

Cat. No.	Description	Size
89167-958	Well-Coated™ Neutravidin™ 8-well strip plate, Clear	5 plates
89168-004	Well-Coated™ Neutravidin™ 96 well plate, Black	5 plates
89167-956	Well-Coated™ Neutravidin™ 96 well plate, Clear	5 plates
89168-006	Well-Coated™ Neutravidin™ 96 well plate, White	5 plates

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 ($K_a=10^{15}M^{-1}$). 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

Cat. No.	Description	Size
89167-962	Well-Coated™ Streptavidin 8-well strip plate, Clear	5 plates
89168-028	Well-Coated™ Streptavidin 96 well plate, Black	5 plates
89167-960	Well-Coated™ Streptavidin 96 well plate, Clear	5 plates
89168-030	Well-Coated™ Streptavidin 96 well plate, White	5 plates

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 ($K_a=10^{15}M^{-1}$) and streptavidin ($K_a=10^{15}M^{-1}$). 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

Cat. No.	Description	Size
89167-966	Well-Coated™ Biotin 8-well strip plate, Clear	5 plates
89167-996	Well-Coated™ Biotin 96 well plate, Black	5 plates
89167-964	Well-Coated™ Biotin 96 well plate, Clear	5 plates
89167-998	Well-Coated™ Biotin 96 well plate, White	5 plates

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

Cat. No.	Description	Size
89167-970	Well-Coated™ Nickel 8 well strip plate, Clear	5 plates
89168-008	Well-Coated™ Nickel 96 well plate, Black	5 plates
89167-968	Well-Coated™ Nickel 96 well plate, Clear	5 plates
89168-010	Well-Coated™ Nickel 96 well plate, White	5 plates

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

Cat. No.	Description	Size
89167-974	Well-Coated™ Glutathione 8-well strip plate, Clear	5 plates
89168-000	Well-Coated™ Glutathione 96 well plate, Black	5 plates
89167-972	Well-Coated™ Glutathione 96 well plate, Clear	5 plates
89168-002	Well-Coated™ Glutathione 96 well plate, White	5 plates

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

Cat. No.	Description	Size
89167-978	Well-Coated™ Amine Binding 8 well strip plate, Clear	5 plates
89167-984	Well-Coated™ Amine Binding 96 well plate, Black	5 plates
89167-976	Well-Coated™ Amine Binding 96 well plate, Clear	5 plates
89167-986	Well-Coated™ Amine Binding 96 well plate, White	5 plates

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

Cat. No.	Description	Size
89167-982	Well-Coated™ Sulfhydryl Binding 8-well strip plate, Clear	5 plates
89168-032	Well-Coated™ Sulfhydryl Binding 96 well plate, Black	5 plates
89167-980	Well-Coated™ Sulfhydryl Binding 96 well plate, Clear	5 plates
89168-034	Well-Coated™ Sulfhydryl Binding 96 well plate, White	5 plates

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

Cat. No.	Description	Size
89167-950	Well-Coated™ Antibody (goat α-mouse) 8-well strip, Clear	5 plates
89167-988	Well-Coated™ Antibody (goat α-mouse) 96 well, Black	5 plates
89167-948	Well-Coated™ Antibody (goat α-mouse) 96 well, Clear	5 plates
89167-990	Well-Coated™ Antibody (goat α-mouse) 96 well, White	5 plates
89167-954	Well-Coated™ Antibody (goat α-rabbit) 8-well strip, Clear	5 plates
89167-992	Well-Coated™ Antibody (goat α-rabbit) 96 well, Black	5 plates
89167-952	Well-Coated™ Antibody (goat α-rabbit) 96 well, Clear	5 plates
89167-994	Well-Coated™ Antibody (goat α-rabbit) 96 well, White	5 plates

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

Cat. No.	Description	Size
89167-934	Well-Coated™ Protein A 8-well strip plate, Clear	5 plates
89168-012	Well-Coated™ Protein A 96 well plate, Black	5 plates
89167-932	Well-Coated™ Protein A 96 well plate, Clear	5 plates
89168-014	Well-Coated™ Protein A 96 well plate, White	5 plates
89167-938	Well-Coated™ Protein G 8-well strip plate, Clear	5 plates
89168-020	Well-Coated™ Protein G 96 well plate, Black	5 plates
89167-936	Well-Coated™ Protein G 96 well plate, Clear	5 plates
89168-022	Well-Coated™ Protein G 96 well plate, White	5 plates
89167-942	Well-Coated™ Protein A/G 8-well strip plate, Clear	5 plates
89168-016	Well-Coated™ Protein A/G 96 well plate, Black	5 plates
89167-940	Well-Coated™ Protein A/G 96 well plate, Clear	5 plates
89168-018	Well-Coated™ Protein A/G 96 well plate, White	5 plates

Species	Antibody Class	Protein A	Protein G	Protein A/G
Mouse	Total IgG	*****	*****	*****
	IgM	-	-	-
	IgG ₁	*	***	***
	IgG _{2a}	*****	*****	*****
	IgG _{2b}	*****	*****	*****
	IgG ₃	*****	*****	*****
	Human	Total IgG	*****	*****
Human	IgG ₁	*****	*****	*****
	IgG ₂	*****	*****	*****
	IgG ₃	*	*****	*****
	IgG ₄	*****	*****	*****
	IgM	*	-	*
	IgD	-	-	-
	IgA	*	-	*
	Fab	*	*	*
	ScFv	*	-	*
	Rat	Total IgG	*	***
Rat	IgG ₁	*	***	***
	IgG _{2a}	-	*****	*****
	IgG _{2b}	-	*	*
	IgG _{2c}	*****	*****	*****
Rabbit	Total IgG	*****	*****	*****
Goat	Total IgG	*	*****	*****
	IgG ₁	*	*****	*****
	IgG ₂	*****	*****	*****
Cat	Total IgG	*****	*	*****
Chicken	Total IgY	-	-	-
Cow	Total IgG	*	*****	*****
	IgG ₁	*	*****	*****
	IgG ₂	*****	*****	*****
Dog	Total IgG	*****	*	*****
Guinea Pig	Total IgG	*****	*	*****
	Total IgG	*	*****	*****
Horse	IgG(ab)	*	-	*
	IgG(c)	*	-	*
	IgG(T)	-	*****	*****
	Pig	Total IgG	*****	*
Sheep	Total IgG	*	*****	*****
	IgG ₁	*	*****	*****
	IgG ₂	*****	*****	*****

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

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

Cat. No.	Description	Size
89167-946	Well-Coated™ Protein L 8-well strip plate, Clear	5 plates
89168-024	Well-Coated™ Protein L 96 well plate, Black	5 plates
89167-944	Well-Coated™ Protein L 96 well plate, Clear	5 plates
89168-026	Well-Coated™ Protein L 96 well plate, White	5 plates

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.

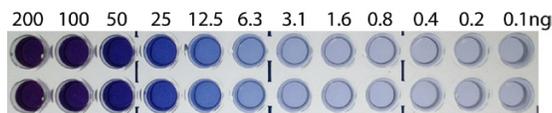


Figure 13: Serial dilutions of HRP incubated with our ELISA substrate for 10 minutes

Our femtoELISA™ 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.

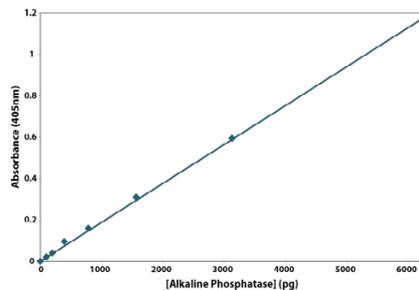


Figure 14: Serial dilutions of AP incubated with femtoELISA™ for 1 minute

FEATURES

- Non-animal blocking agent
- Minimum cross reactivity and lower background

APPLICATIONS

- Highly sensitive colorimetric detection of HRP or AP

Cat. No.	Description	Size
95029-152	femtoELISA™ HRP Kit	1000 assays
95029-154	femtoELISA™ HRP substrate only	1000 assays
95029-156	femtoELISA™ AP Kit	1000 assays
95029-158	femtoELISA™ AP substrate only	1000 assays

OptiBlaze™ ELISA

High sensitivity chemiluminescence detection

Stabilized ultra sensitive luminol and 1,2 dioxetane 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

Cat. No.	Description	Size
82023-272	OptiBlaze™ ELISA femto-HRP	1000 assays
95043-540	OptiBlaze™ ELISA femto-AP	1000 assays

G-Biosciences Product Line Overview

Protein Research

- Estimation
- Isolation
- Detection
- Purification
- Modification
- Antibody

BioAssays

- SAM Methyltransferase
- Cell Toxicity & Proliferation
- Apoptosis
- Protease
 - Phosphatase
 - Peroxide
- B-Galactosidase

Molecular Biology

- Genomic DNA
- Plasmid DNA
- Electrophoresis
- PCR
- RNA
- Yeast

- 7 Assays
- Extraction & Lysis
 - Fractionation & Enrichment
- Sample Preparation
- Reagents
- Electrophoresis
- Western Blotting
- Mass Spectrometry
- Assays (ELISA)
- Affinity Resins
- Activated Resins
- Antibody Purification
- Labeling
 - Crosslinkers
 - Reducing Agents
 - Alkylating Agents
 - Protein Cleavage
 - Iodination
 - Amino Acid Side Chain Modifiers
- Production
- Purification
- Fragmentation

- Continuous, Enzymatic Assays
 - Lactate Dehydrogenase (LDH)
 - SRB
 - WST-1
- Caspase
 - Inducers
 - Assays
 - Inhibitors

- CPRG
 - Fluorescent (MUG)

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

- CB-X
- Non Interfering
- SPN
- RED 660
- dotMETRIC
- BCA
- CB
- Sample Grinding
- Lysis Buffers
- 12 Fractionation Kits
 - Dialysis (Micro)
 - Concentration
- Contamination Removal
- Protease Inhibitors
 - Detergents
 - Chaotropes
- 1D & 2D Reagents
- Gel Stains
 - 1 Hour System
- Blocking Agents
 - Secondary Antibodies
 - Chemiluminescence Detection
 - Trypsin, Mass Spec Grade
 - InGel Kits
 - Coated Plates
- Blocking Agents
 - Secondary Antibodies
 - Detection Reagents
- 6X His Tag
 - GST Tag
 - Biotin Tag
 - CBP Tag
 - Sulphydryl reactive
 - Amine reactive
 - Carboxyl reactive
 - Drug/ Steroid reactive
 - Protein A or G
 - Pearl Resin
 - Biotin
 - Fluorescent Dye
 - Enzyme (HRP/AP)

- Carrier Proteins
 - Peptide Coupling
 - Protein A or G Resin
 - Activated Resins
 - Pearl Resin
 - Thiophilic Resin
 - Ficin
 - Pepsin
 - Papain

- Assays
- Substrates
- Inhibitors

- Tissue
- Blood
- Plant
- Yeast
- Bacteria
- Fungi
- Mouse Tail

- Mild Denaturing
- Strong Chaotropic
- Specialized

- Desalting
- Detergent Removal
- General Cocktails
- Species Specific
- Individual Inhibitors

- 2D Specific Kits
- Buffers & Reagents
- Coomassie
- Silver
- Reversible

- Non-Animal
- Animal
- Non-Protein

- Non-Animal
- Animal
- Non-Protein

- Nickel resin
- Cobalt resin
- Copper resin
- Zinc Resin
- Glutathione Resin
- Streptavidin Resin
- Calmodulin Resin

- BSA
- KLH
- HyperCarrier



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