VISUAL PROTEIN

Product Catalog

- Proteomics
- Adjuvant
- Supplement

About Visual Protein

Established in 2005, Visual Protein is dedicated to enhancing biological developments by providing innovative products and services for research use. Our greatest strength is our research and development capability. Most products developed by Visual Protein are more effective than those developed by famous international companies. Our expertise broadens research possibilities in the fields of proteomics, immunology and cytology.

We pursues efficacy and reproducibility. Through repeated experimentation under strict quality control, we assure our clients reliable products. We also understand the importance in product development of not only product quality, but also the practice of researchers. Visual Protein combines both the technology and practical requirements to facilitate successful experiments.

Based in Taiwan, Visual Protein employs professionals with a strong commitment to serving researchers worldwide.

For more information, please feel free to contact us.

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Email: visualprotein@energenesis-biomedical.com

Contents

LuminolPen™, HRP system

LuminolPen™, HRP System is a perfect tool for chemiluminescent detection in Western blot. With simply writing on the pre-stained marker, the position of the molecular weight can be showed on the image. It could also help you to note the experiment condition or evaluate the efficacy of ECL substrate.

#LH03-50

Advantages

- Unique: the world's first luminescent color development marker pen
- Help you to evaluate the efficacy of your ECL substrate
- Convenient: able to make notes and show on the image with the data result
- Compatible: applicable with most brands of ECL substrate

Performance

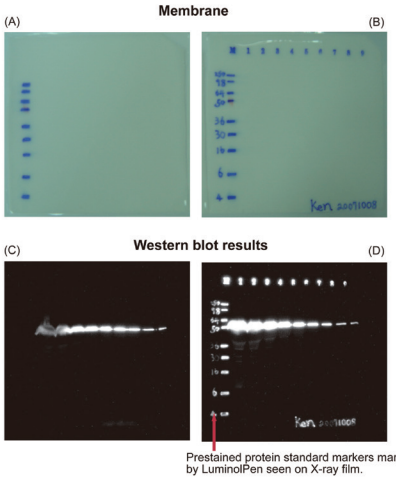


Figure 1. Labeling molecular weight and note on the membrane with LuminolPen™. (A) and (C) are general Western blot chemiluminescence detection image; (B) and (D) are the image using LuminolPen™ to indicate the pre-stained marker.

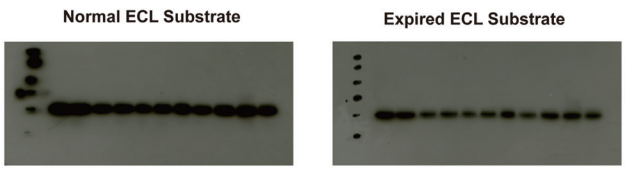


Figure 2. Evaluate ECL substrate efficacy by LuminolPen™. 30 µg cell lysate HepaG2 and detect with anti-AMP-active protein kinase (mouse, 1:1,000). Secondary antibody : anti-mouse IgG-HRP (1:10,000). Membrane: Hyond™ P. Detection: Hyperfilm™ ECL. Signal exposed for 30 seconds and detected by X-ray. The signal result present by the normal ECL substrate is stronger than using the expired ECL substrate. LuminolPen™ noted marker can be an indicator to check the result or adjust different experiments to similar experimental conditions.

Ordering information

1. LH03-50 About 1,000 membranes drawing
2. LH03-10 About 100 membranes drawing

LuminolPen™ EZ, HRP System

LuminolPen™ EZ, HRP System is designed to annotate the position of prestained marker on the Western blot membrane. LuminolPen™ EZ should be used before adding ECL substrate on the blot and after hybridization procedures, while LuminolPen HRP system (LH03-50) should be used after the transfer of protein from gel to a membrane and before the blocking step. Simply mark the position of the protein marker or write down experiment conditions on the blot, the signals from the drawing can be shown with the application of ECL substrates, and the images can be recorded by using either the X-ray films or the CCD image documentation system.

#LH05-50

Advantages

- Persistence: applicable to long-term exposure
- Enhanced ink: improve the signal by repeat writing

Perfermance

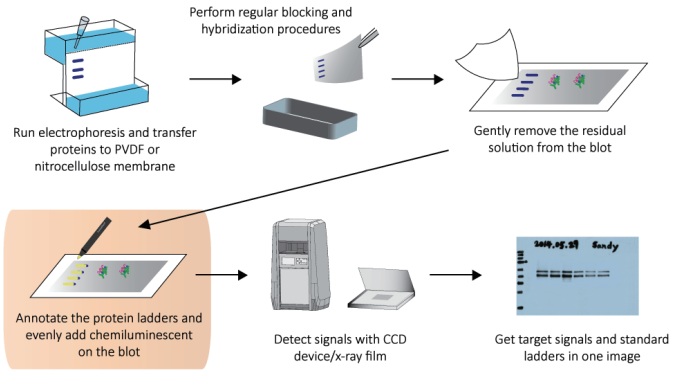


Figure 1. Use LuminolPen™ EZ to take notes and mark prestained protein marker on the blot

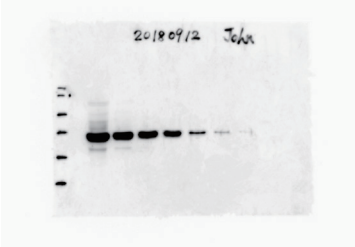


Figure 2. Application of LuminolPen™ EZ on the ECL-base Western Blot experiments. Label the positions of molecular weight marker (VC01, VisualProtein) and notes the PVDF membrane with LuminolPen™ EZ. Capture the annotated signal according standard ECL reaction by image Capture System.

Ordering information

1. LH05-50	About 1,000 membranes drawing
2. LH05-10	About 100 membranes drawing

BlockPRO™ Series

Visual Protein offers three products for blocking:
1. BlockPRO™ Blocking Buffer
2. BlockPRO™ Protein-Free Blocking Buffer
3. BlockPRO™ 1 Min Protein-Free Blocking Buffer

What you should know for selecting a suitible blocking buffer in your expirements.

Before probing for proteins of interest, the remaining binding surface of the membrane must be blocked to prevent the nonspecific binding of the antibodies. Otherwise, the antibodies or other detection reagents will bind to any remaining sites on the membrane that initially served to immobilize the proteins of interest. In principle, any protein that does not have binding affinity for the target or probe components in the assay can be used for blocking.

The ideal blocking buffer will bind to all potential sites of nonspecific interaction, eliminating the background altogether without altering or obscuring the epitope for antibody binding. Blocking buffers can influence antibody binding and specificity, so optimization is needed. No single protein or mixture of proteins works best for all Western blot experiments, and empirical testing is necessary to obtain the best possible results for a given combination of specific antibodies, membrane type, and substrate system.

What you should know for selecting a suitible blocking buffer in your expirements.

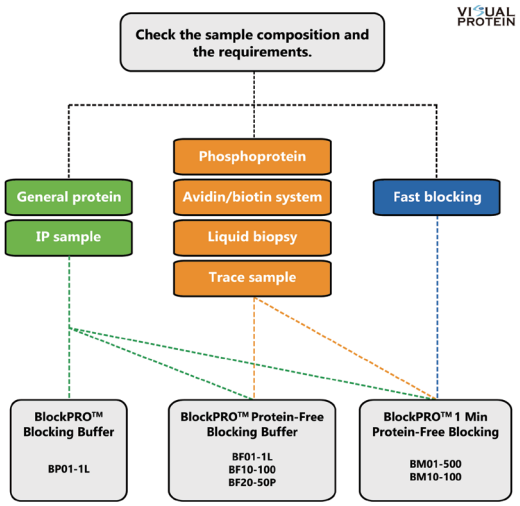
Application	Selection guide
Western blot	Use appropriate blocking reagent to block membrane prior to incubating with primary antibody. See instruction A (Check the sample composition and the requirements)
ELISA	Use an appropriate volume of blocking reagent to completely block wells prior to incubating with the primary antibody. See instruction A (Check the sample composition and the requirements)
IHC and IF	A higher amount of primary antibody is used in IHC/IF. Use appropriate blocking reagent to minimize cross-reactivity happened on the cell or tissue species being analyzed. Use serum (normal serum from the host of the labeled antibody) or highly purified protein blocking buffer to block endogenous binding sites which may interact with experimental reagents. See instruction B (Which immunotechniques is used in your study?)
Protein array	Use appropriate blocking reagent as the manufacturer's instruction of the protein array. For developing and optimizing detection sensitivity, use high efficiency protein-free blocking buffer to minimize the cross-reactivity of sample (liquid biopsy) and the experimental reagent. See instruction B (Which immunotechniques is used in your study?)

BlockPRO™ Series

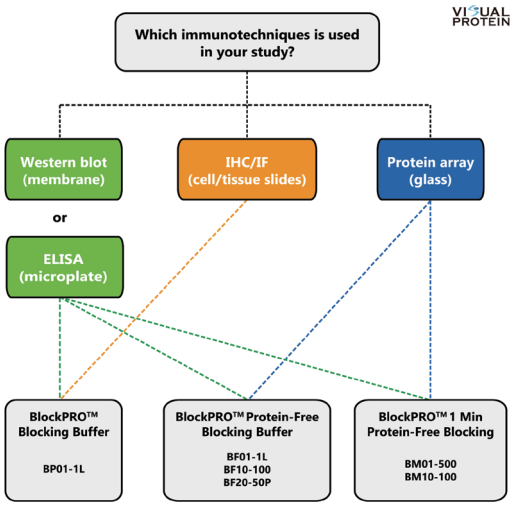
Product comparision

	BlockPRO™ Blocking Buffer	BlockPRO™ Protein-Free Blocking Buffer	BlockPRO™ 1 Min Protein-Free Blcoking Buffer
Blocking agent	Single purified protein	Hydrocarbon chemicals	
Blocking time	30~60 minutes	30~60 minutes	1~3 minutes
Principle of action	The blocking agent is a single protein with high stability. The blocking agent blocks the hydrophobic area of PVDF/NC by the hydrophobic part of the protein itself.	The blocking agent is hydrocarbon compounds, which blocks the hydrophobic area of PVDF/NC through hydrophobic force. The hydrocarbons do not react with the amino group and aldehyde group of the protein, eliminating the non-specific binding (cross-reactivity) associated with protein-based blocking buffers.	

Instruction A. Check the sample composition and the requirements.



Instruction B. Which immunotechniques is used in your study?



BlockPRO™ Blocking Buffer

BlockPRO™ Blocking Buffer is based on single purified protein which is suitable for blocking in Western blot, ELISA, immunohistochemistry and other immunochemical application. It can block excess binding site but not cover on the binding protein and therefore increase the signal intensity. Best for med-high abundant proteins or strong antibody affinity; high background with current blocking buffer; stripping and re-probing Western blots. Present better data result than milk and BSA blocking buffer.

#BP01-1L

Advantages

- Increase signal intensity
- Compatible with ELISA, IHC, WB
- Safe and ready-to-use

Perfermance

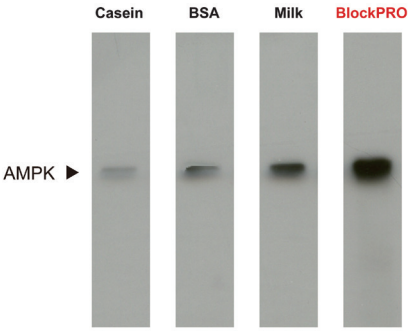


Figure 1. Signal strength comparison of Casein, BSA, milk, and BlockPRO™ Blocking Buffer. Loading 30 µg cell lysate (HepaG2) and detect with anti-AMPK (mouse, 1:1,000). Secondary antibody : anti-mouse IgG-HRP 1:10,000. Membrane: Hyond™ P. Detection: Hyperfilm™ ECL. All results were exposed for 30 seconds and capture by X-ray film.

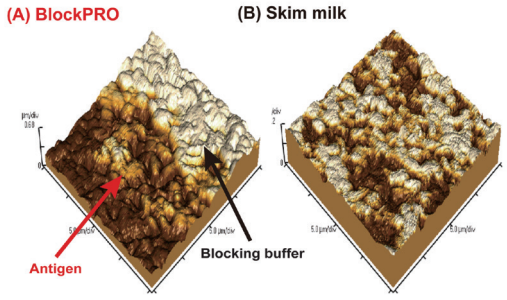


Figure 2. Application of LuminolPen™ EZ on the ECL-base Western Blot experiments. Label the positions of molecular weight marker (VC01, VisualProtein) and notes the PVDF membrane with LuminolPen™ EZ. Capture the annotated signal according standard ECL reaction by image Capture System.

Ordering information

1. BP01-1l 500mL Solution X 2

BlockPRO™ Protein-Free Blocking Buffer

BlockPRO™ Protein Free Blocking Buffer is a non-protein formulation which enhances sensitivity and minimizes background noise, presenting better results than traditional protein-based blocking buffer in immunoassays. The synthetic formulation of BlockPRO™ Protein-Free Blocking Buffer makes it suitable for PVDF and nitrocellulose platform, avidin/biotin system, detection of phosphoprotein, and other immunochemical applications.

#BF01-1L

Advantages

- Provide better specific signal and less background noise than traditional blocking buffer
- Suitable for Western blot, dot blot, ELISA, and other immunoassays
- Ensure lot-to-lot consistency for your most reproducible results over time

Performance

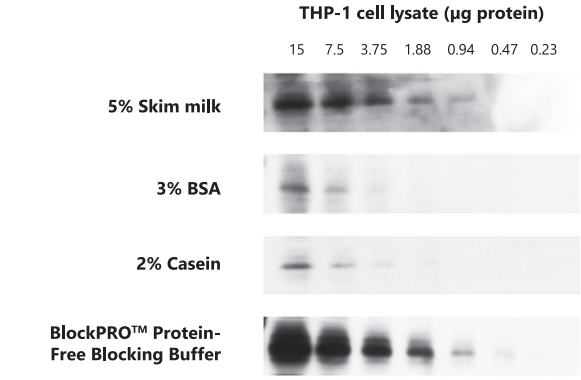


Figure 1. BlockPRO™ Protein-Free Blocking Buffer is better than protein-based blocking buffers (skim milk, BSA and casein) for detection of target protein in Western blotting. THP-1 cell lysates were prepared and separated by electrophoresis. The proteins were transferred to PVDF and blocked for 1 hour at room temperature with the indicated blocking buffer, probed with mouse anti-pAMPK followed by anti-mouse HRP and detected by chemiluminescence. All results were exposed to X-ray film for 30 seconds.

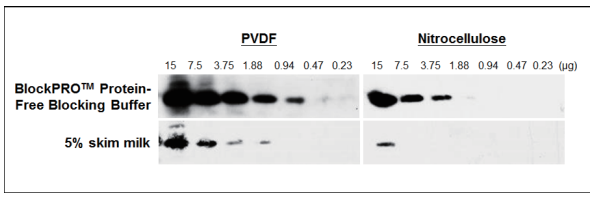


Figure 2. BlockPRO™ Protein-Free Blocking Buffer can be used in both PVDF and nitrocellulose platform. Hela cell lysates were prepared and separated by SDS-PAGE. The proteins were transferred to PVDF or nitrocellulose membranes. The membranes were blocked for overnight at 4 °C with BlockPRO ™ Protein-Free Blocking Buffer or 5% skim milk, probed with mouse anti-histone H3 followed by anti-mouse HRP and detected by chemiluminescence. All results were exposed to X-ray film for 30 seconds.

Ordering information

1. BF01-1L	BlockPRO™ Protein-Free Blocking Buffer	500mL Solution X 2
2. BF10-100	BlockPRO™ Protein-Free Blocking Buffer (10X)	100mL 10X Solution X 1
3. BF20-50P	BlockPRO™ Protein-Free Blocking Buffer (20X)	5 ml x 20 pack

BlockPRO™ 1 Min Protein-Free Blocking Buffer

BlockPRO™ 1 Min Protein-Free Blocking Buffer is a fast blocking buffer for Western blotting with non-protein formulation containing 0.05% Tween-20 surfactant. It effectively prevents protein cross-reaction and improves the signal/noise ratio of the detected signals by one-minute blocking. BlockPRO™ 1 Min Protein-Free Blocking Buffer can be applied to immunodetection systems including antibodies and biotin/avidin systems such as ELISA, Western blotting, immunohistochemistry and other immunochemical applications.

#BM01-500

Advantages

- Fast blocking: the enhanced formula shortens the blocking time to 1 minute
- Protein-free: eliminates cross-reactivity happened in traditional protein-based blocking buffers
- Antibody diluent: for diluting primary and secondary antibodies and extending the storage time of antibodies

Perfermance

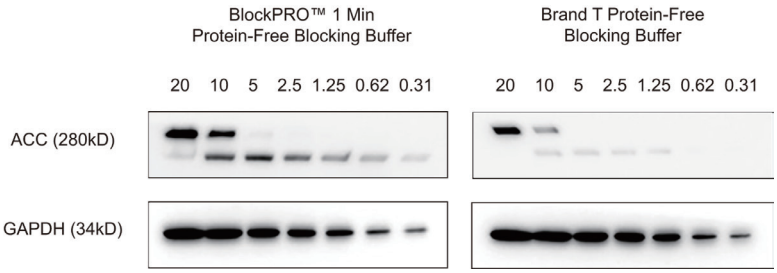


Figure 1. BlockPRO™ 1 Min Protein-Free Blocking Buffer enhanced the signal intensity and shorten the blocking time to 1 min. 20 µg of Huh-7 cell lysates were serial diluted and separated by electrophoresis. The proteins were transferred to PVDF and blocked for 1 min hour at room temperature with BlockPRO™ 1 Min or 1 hour in competitor's product (as indicated), probed with mouse anti-ACC followed by anti-mouse HRP and detected with LumiFlash™ Ultima Chemiluminescent Substrate.

Ordering information

1. BM01-500	BlockPRO™ 1 Min Protein-Free Blocking Buffer	500mL Solution X 1
2. BM10-100	BlockPRO™ 1 Min Protein-Free Blocking Buffer (10X)	100mL Solution X 1

LumiFlash™ Prime Chemiluminescent Substrate, HRP System

LumiFlash™ Prime Chemiluminescent Substrate is a ready-to-use reagent for chemiluminescent detection of immobilized proteins (Western blotting), conjugated with horseradish peroxidase (HRP) directly or indirectly. In the presence of hydrogen peroxide, HRP catalyzes the oxidation of cyclic diacylhydrazides, such as luminol, and light emits. LumiFlash™ Prime Chemiluminescent Substrate provides a convenient way to visualize HRP-based detection. Simply mix and add the solutions onto the membrane. The signal of target protein can be recorded by exposure to X-ray film or compatible image acquisition system.

#LF01-500

Advantages

- High sensitivity: detect protein target to picogram level
- Antibody saving: less antibody usage with higher quality result on the WB
- Low background: provide low background on the WB result
- Economy: offer excellent quality with lower price

Performance

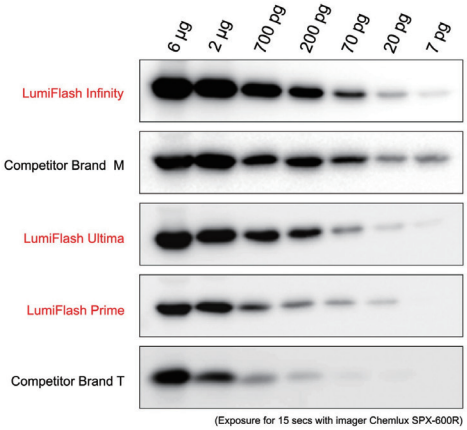


Figure 1. Application of LuminolPen™ EZ on the ECL-base Western Blot experiments. Label the positions of molecular weight marker (VC01, VisualProtein) and notes the PVDF membrane with LuminolPen™ EZ. Capture the annotated signal according standard ECL reaction by image Capture System.

Ordering information

1. LF01-500 250mL Solution A + 250mL Solution B
2. LF01-100 50mL Solution A + 50mL Solution B

LumiFlash™ Ultima Chemiluminescent Substrate, HRP System

LumiFlash™ Ultima Chemiluminescent Substrate, HRP is an advanced ECL product in terms of efficacy and sensitivity for chemiluminescent detection of immobilized proteins in Western blotting. LumiFlash™ Ultima Chemiluminescent Substrate, HRP provides high sensitivity and long signal duration in Western blotting application. It needs very short exposure time to the X-ray film or other documentation systems, and can get low background and high signal with clear image. LumiFlash™ Ultima Chemiluminescent Substrate, HRP is the perfect choice for most Western blotting application.

#LF08-500

Advantages

- High signal sensitivity – detection of target protein at low-picogram level on WB
- Antibody saving – diluted lower antibody concentration for WB
- Long duration – provide stable signal for long exposure
- Economy – cost less than other ECL substrate with similar sensitivity leve

Performance

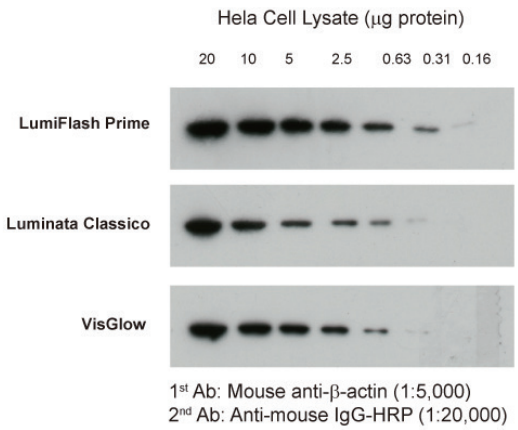


Figure 1. The comparison of WB application for LumiFlash Prime, VisGlow, and Luminata Crescendo. Hela cell lysate with 1/2 serial dilution from 20 µg was separated by 12.5% SDS-PAGE and probed by anti b-actin. All results were exposed to X-ray film for 1 minute.

Ordering information

1. LF08-500 250mL Solution A + 250mL Solution B
2. LF08-100 50mL Solution A + 50mL Solution B

LumiFlash™ Infinity Chemiluminescent Substrate, HRP System

LumiFlash™ Infinity Chemiluminescent Substrate, HRP is an enhanced chemiluminescent substrate for high femtogram-level by detection of immobilized proteins (Western blotting). LumiFlash™ Infinity Chemiluminescent Substrate, HRP provides high signal and low background, which allows detection of target protein on PVDF or nitrocellulose. This feature benefits the researchers with excellent low background result and without signal burn effect at the same time.

#LF16-500

Advantages

- High sensitivity: for quantitative analysis of protein at high femtogram level
- Antibody saving: recommend dilution of the primary antibody at 5,000-fold and secondary antibody at 50,000 to 250,000-fold (from 1mg/mL stock)
- Low background: avoid non-specific signals on the WB result

Perfermance

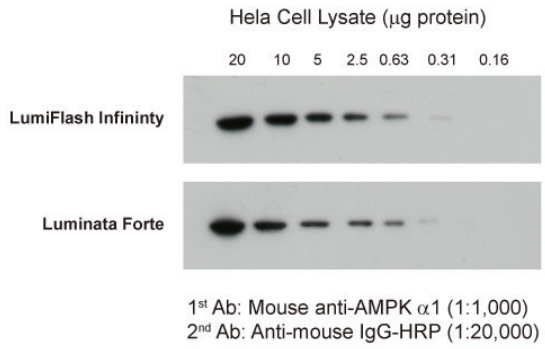


Figure 1. The comparison of WB application for LumiFlash Infinity and Luminata Forte. Hela cell lysate with 1/2 serial dilution from 20 µg was separated by 12.5% SDS-PAGE and probed by anti AMPKa1. All results were exposed to X-ray film for 5 minutes.

Ordering information

1. LF16-500	250mL Solution A + 250mL Solution B
2. LF16-100	50mL Solution A + 50mL Solution B

LumiFlash™ Femto Chemiluminescent substrate, HRP System

LumiFlash™ Femto Chemiluminescent Substrate is the most sensitive chemiluminescent reagent in our LumiFlash ™ Series products. It is an extremely sensitive ECL (enhanced chemiluminescent substrate) for detection of low-femtogram level protein with horseradish peroxidase (HRP) in Western blotting. LumiFlash™ Femto provides high intense signal output resulting in a brighter back-ground on both PVDF and nitrocellulose membrane. It fulfills the need for detection of target proteins in trace amounts which are too small to be detected with general ECL substrate.

#LF24-100

Advantages

- Very High signal sensitivity: detection of target protein at the low-femtogram level
- Long duration: signal duration up to 12 hours)
- Long shelf life: 18 months long at 4℃

Perfermance

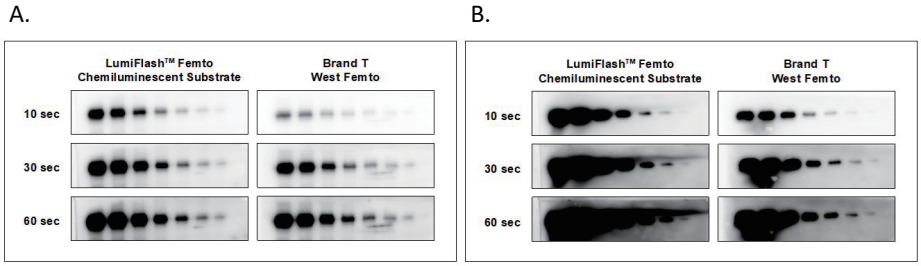


Figure 1. Western blotting image of LumiFlash™ Femto Chemiluminescent Substrate, HRP System. Hela cell lysate with 1/2 serial dilution from 7 µg was separated by 12.5% SDS-PAGE. The proteins were transferred to PVDF and blocked for 1 min at room temperature with BlockPRO™ 1 Min (#BM01-500). (A) The blot was probed at 1:2,500 with Anti-Akt antibody (#4691, Cell Signaling Technology). (B) The blot was probed at 1:10,000 with Anti-GAPDH antibody (#ab8245, Abcam). A HRP-conjugated secondary antibody was applied and developed with LumiFlash™ Femto Chemilumi-nescent Substrate (#LF24-100). All blots were simultaneously exposed for 10 seconds, 30 seconds, and 60 seconds using ChemLux SPX-600 imaging system.

Ordering information

1. LF24-100 50mL Solution A + 50mL Solution B

StripPRO™ 1 Min Stripping Buffer

StripPRO™ 1 Min Stripping Buffer effectively removes antibodies from Western blots in one minute. The unconjugated antigens on the stripped membrane are allowed to be reprobed and be detected with chemiluminescent substrates. StripPRO™ 1 Min Stripping Buffer is an ideal product for breaking antigen-antibody interaction, saving time and saving conserving samples.

Advantages

- Extreme short working time: only one minute stripping to remove primary and secondary antibodies
- Harmless formula: free of reducing agents, toxic compounds and odors

Performance

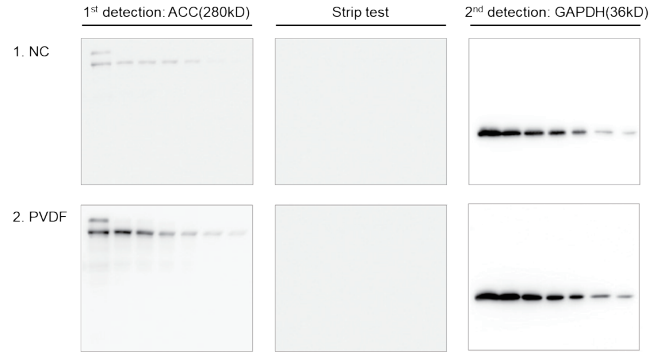


Figure 1. StripPRO™ 1 Min Stripping Buffer removes antibodies from blot in only 1 min. Huh7 cell lysate was probed for ACC (280kD). Blots were then stripped with either StripPRO™ (1min) or brand T (15 mins). The blots were then re-blocked and reprobed for GAPDH (36kD) and detected with LumiFlash™ Ultima Chemiluminescent Substrate.

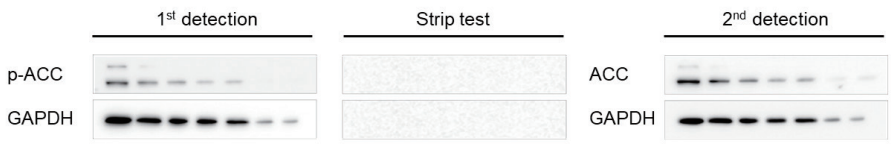


Figure 2. Demonstration of phosphorylated protein and original type in one blot by using StripPRO™ 1 Min Stripping Buffer. Hela cell lysate was extracted with RIPA Cell Lysis Buffer (RP05) added with PhosSTOP (Roche). 1/2 fold serial dilution of Hela Cell lysate (start from 20ug/well) were separated by SDS-PAGE. The two membranes were probed for p-ACC and GAPDH respectively and detected with LumiFlash™ Ultima Chemiluminescent substrate, HRP system (LF08). Blots were stripped in StripPRO™ 1 Min Stripping Buffer (SP01) for 1 minute at room temperature. The blots were reblocked and reprobed for ACC and GAPDH respectively.

StripPRO™ 1 Min Stripping Buffer

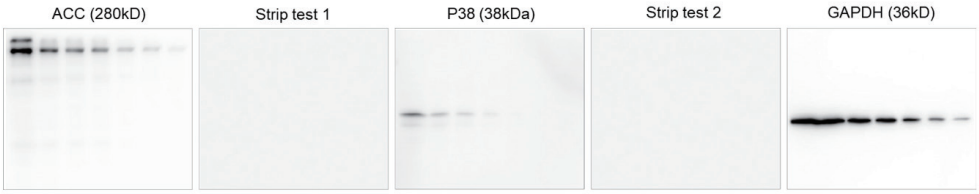


Figure 3. Stripping and reprobing blot for different molecular weight targets with StripPRO™. 1/2 fold serial dilution of Hela cell lysate (start from 20ug/well) were separated by SDS-PAGE. The proteins were transferred to 0.45um PVDF membranes and the blocked with BlockPRO™ 1 Min Protein-Free Blocking buffer (BM01) and analyzed by Wetsern blot using LumiFlash™ Ultima Chemiluminescent substrate, HRP system (LF08) and the Chemlux SPX-600V (2x2 binning). The first target (1st detection) was detected at 1:1,000 by probing with Anti-ACC monoclonal antibody (#3676, Cell Signaling Technology). And then the blot was stripped in 1 Min Stripping Buffer (SP01) for 1 minute at room temperature, washed in 1X TBS Tween-20, incubated with substrate and imaged to check for stripping efficiency (1st strip test) The second target (2nd detection) was detected at 1:1000 by reblocking and probing with Anti-p38 monoclonal antibody (ab31828, Abcam). The blot was stripped again (2nd strip test) and then the third target (3rd detection) was detected at 1:10,000 by reblocking and probing with Anti-GAPDH antibody (ab8245, Abcam). All of the secondary antibodies was proved at 1:10,000 (#115-035-003, 3115-035-144, Jackson ImmunoResearch)

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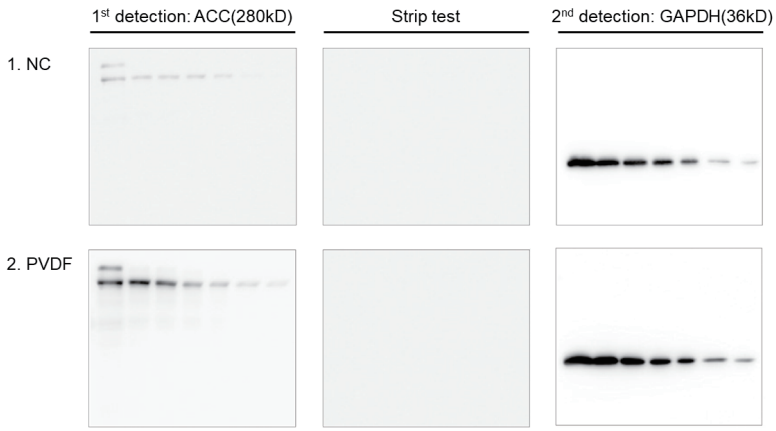


Figure 4. Stripping efficiency of StripPRO ™ 1 Min Stripping Buffer in two common transfer membranes. 1/2 fold serial dilution of Hela Cell lysate (start from 20ug/well) were separated by SDS-PAGE. Following protein transferred to nitrocellulose (NC) paper and PVDF, the two membranes were probed for ACC and detected with LumiFlash™ Ultima Chemiluminescent substrate, HRP system (LF08). Blots were stripped in StripPRO™ 1 Min Stripping Buffer (SP01) for 1 minute at room temperature. The blots were reblocked and reprobed for GAPDH.

Ordering information

1. SP01-500	StripPRO™ 1 Min Stripping Buffer	500 mL Solution X 1
2. SP05-100	StripPRO™ 1 Min Stripping Buffer (5X)	100 mL Solution X 1

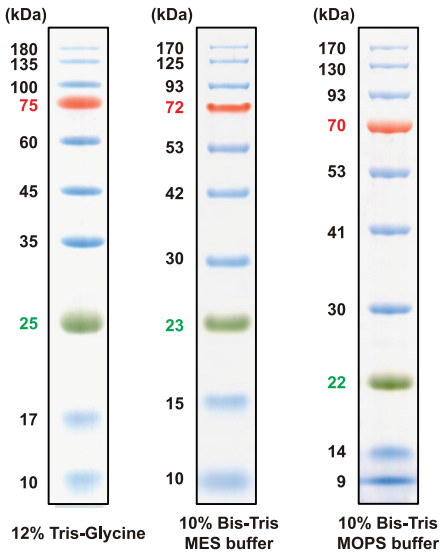
VisColor™ Pre-Stained Protein Marker

VisColor™ Pre-Stained Protein Marker is a ready-to-use protein standard with 10 pre-stained proteins (180 to 10 KDa) for use as size standards in SDS-PAGE and Western blotting. In the pre-stained marker, eight of proteins are covalently coupled with blue dye and the other two proteins are covalently coupled with other color dye (one red band at 75KDa and one green band at 25KDa.) The VisColor™ Pre-Stained Protein Marker is ready to use with no heating, diluting or additional reducing agent necessary before loading.

Advantages

- Size range: 10 proteins from 180 to 10 KDa
- Sharp bands: Color-coded bands of similar intensity for easy visualization
- Ready-to-use: Direct loading on gels without boiling or diluting

Perfermance



5 µL of VisColor™ Pre-Stained Protein Marker on a 12% Tris-Glycine, 10% Bis-Tris MES, and 10% Bis-Tris MOPS SDS-PAGE (180 - 10 kDa).

Figure 1. Band of the VisColor™ Pre-Stained Protein Marker. 5 µL of VisColor Pre-Stained Protein Marker on (A) 12% Tris-Glycine SDS-PAGE, (B) 10% Bis-Tris SDS-PAGE with MES buffer, (C) 10% Bis-Tris SDS-PAGE with MOPS buffer.

Ordering information

1. VC01-250 250µL X 1
2. VC01-500 250µL X 2

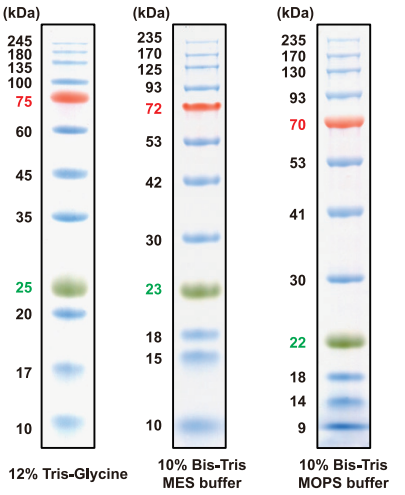
VisColor™ Full-Range Pre-Stained Protein Marker

VisColor™ Pre-Stained Protein Marker is a ready-to-use protein standard with 12 pre-stained proteins (245 to 10 KDa) for use as size standards in SDS-PAGE and Western blotting. In the pre-stained marker, eight of proteins are covalently coupled with blue dye and the other two proteins are covalently coupled with other color dye (one red band at 75 KDa and one green band at 25 KDa.) The VisColor™ Full-Range Pre-Stained Protein Marker is ready to use with no heating, diluting or additional reducing agent necessary before loading.

Advantages

- Size range: 12 proteins from 245 to 10 KDa
- Sharp bands: Color-coded bands of similar intensity for easy visualization
- Ready-to-use: Direct loading on gels without boiling or diluting

Perfermance



5 μL of VisColor™ Full-Rnage Pre-Stained Protein Marker on a 12% Tris-Glycine, 10% Bis-Tris MES, and 10% Bis-Tris MOPS SDS-PAGE (245 - 10 kDa).

Figure 1. Band of the VisColor™ Full-Range Pre-Stained Protein Marker. 5 μL of VisColor Full-Range Pre-Stained Protein Marker on a (A) 12% Tris-Glycine SDS-PAGE, (B) 10% Bis-Tris SDS-PAGE with MES buffer, (C) 10% Bis-Tris SDS-PAGE with MOPS buffer.

Ordering information

1. VC03-250 250μL X 1
2. VC03-500 250μL X 2

RIPA Cell Lysis Buffer

RIPA lysis buffer performs a stong ability to lyse plasma membrane, cytolpasm and nucleus, besides, it is applicable to either adherent or suspension cell. The total protein which harvested by lysis method is applicable to proteomics approach such as Wetstern Blot, protein immunoprecipitation and reporter assay.

#RP05-100

Advantages

- Broad applications: the lysed protein can be directly used in proteomics approach
- Safe and convenience

Perfermance

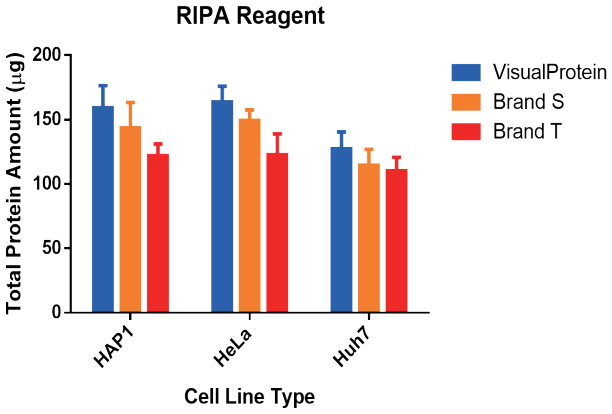


Figure 1. Comparison of the cell lysis performance with different sample sources. The total protein from cell lines (HAP1, Hela, Huh7) extracted by freeze and thaw method and lysed by RIPA Cell Lysis Buffer(#RP05-100 and the two competitors). The results indicate that better protein harvest efficiency performed by VisualProtein Cell Lysis Buffer.

Ordering information

1. RP05-100 100 mL
2. RP05-500 500 mL

Dual-Range™ BCA Protein Assay Kit

Dual-Range™ BCA Protein Assay Kit is the most used protein assay method. It based on bicinchoninic acid (BCA) for the colorimetric detection and quantitation of total protein in the 5–2,000 μg/mL concentration range. Like the Lowry method, the assay relies on the reduction of Cu2+ ions by protein. The Cu+ thus formed is detected by conversion into a violet-colored substance by reaction with bicinchoninate. Dual-Range™ BCA Protein Assay Kit is compatible with many detergents but not compatible with reducing agents such as DTT,DTE, and 2-Mercap-toethanol etc.

Advantages

- Broad linear range: with standard protocol for 20-2000 μg/mL and enhanced protocol for 5-250 μg/mL
- Compatible: unaffected by typical concentrations of most ionic and nonionic detergents

Method

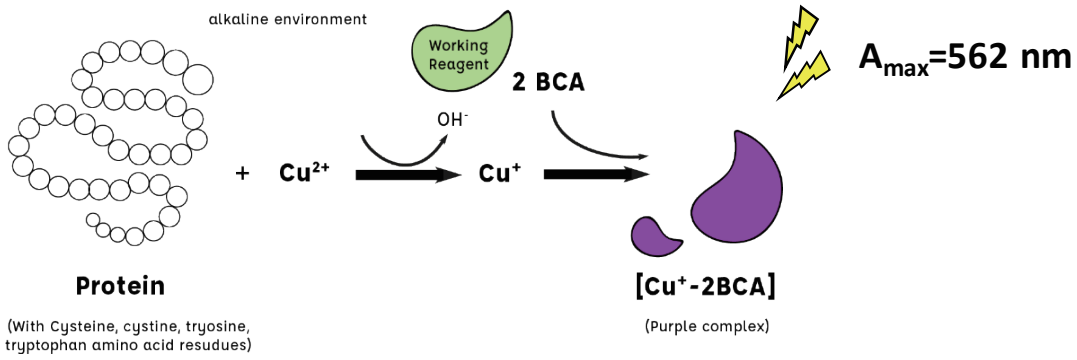


Figure 1. The BCA protein assay is based on a reduction of Cu2+ to Cu+ by proteins in alkaline solution with a sensitive and specific colorimetric detection of Cu+ by bicinchoninic acid (BCA). Two molecules of BCA chelate with each Cu+ and making the reduced copper from apple green to purple complex with strong absorbance at 562 nm.

Dual-Range™ BCA Protein Assay Kit

Performance

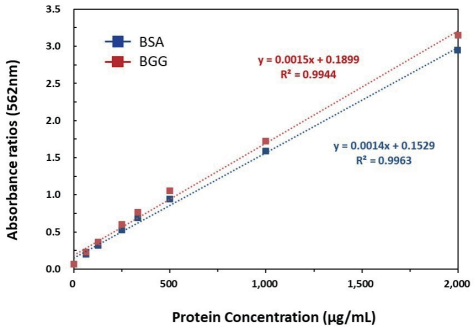


Figure 2. Standard curve of bovine serum albumin (BSA) and bovine gamma globulin (BGG) by using microplate procedure (37°C for 30mins).

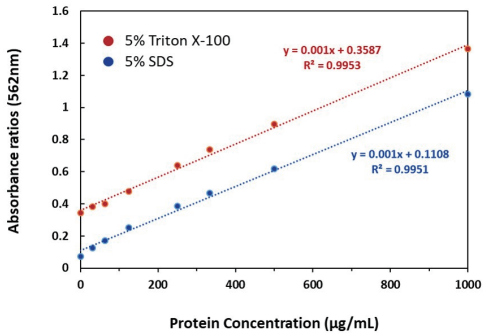


Figure 3. Standard curve of BSA with 5% Triton X-100 or 8% SDS by using microplate procedure (37°C for 30mins).

Quick instructions:

Prepare Working Reagent (WR) by mixing 50 parts of Reagent with 1 part of Reagent B			
Work range	**Standard Protocol: 20~2,000 µg/mL**	**Standard Protocol (for limited sample): 125~2,000 µg/mL**	**Enhanced protocol: 5~250 µg/mL**
Test tube (sample/WR)	100 µL/2 mL	N/A	100 µL/2 mL
Microplate (sample/WR)	25 µL/200 µL	10 µL/200 µL	25 µL/200 µL
Reaction	37℃ for 30 min or RT for 2 hours		60℃ for 30 min
Measurement	Measure absorbance at 562 (or 540~570 nm) within 10 min		

Ordering information

1. BC03-500 1 kit of 500mL Reagent A, 12 mL Reagent B, 10mL BSA (2mg/mL)
For making 2500 microplate assays

Dual-Range™ Bradford Protein Assay

Dual-Range™ Bradford Protein Assay is a fast protein quantification method. It based on the method of Bradford, coomassie-binding with protein in an acidic solution. The measurement of absorbance shifts from 465 nm (brown color) to 595 nm (blue color) when binding to protein occurs. In addition, the coloration differs greatly depending on the basic and aromatic amino acid residues of protein. Dual-Range™ Bradford Protein Assay provides a wide protein quantification range from 1-1,000 µg/mL and the measured absorbance at 595 nm is stable for 5 to 60 minutes after the binding reaction starts.

Advantages

- Simple protocol: only takes 5 minutes for the colorimetric reaction
- High tolerance to reducing agent: Bradford is compatible with DTT and DAE which used for protein isolation method

Method

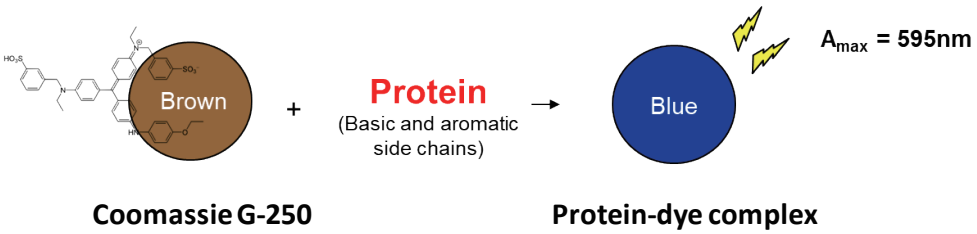


Figure 1. The Bradford assay method is based on the ability of Coomassie blue to bind directly with the protein molecules in the sample, causing the dye to change its color from red (absorbance at 465 nm) to blue (absorbance at 595 nm).

Perfermance

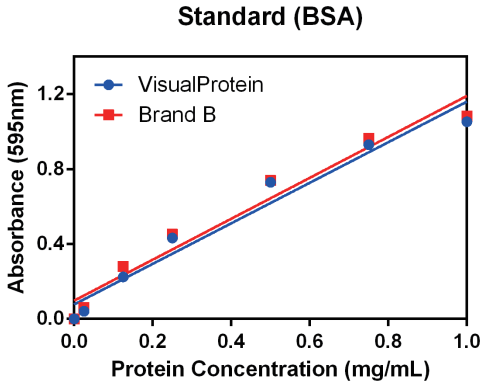


Figure 2. Standard curve of bovine serum albumin (BSA) by using a standard protocol with a working range from 20 to 1,000 µg/ml.

Dual-Range™ Bradford Protein Assay

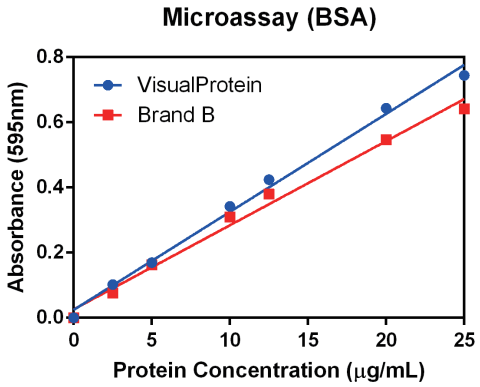


Figure 3. Standard curve of bovine serum albumin (BSA) by using enhanced protocol with working range from 1 to 25 µg/ml.

Quick instructions:

	BR01-500	BR05-500	BR05-500-K
Braford Reagent	1X, 500 mL	5X, 500 mL	5X, 500 mL
BSA Standard	Not included	Not included	10 ml BSA (2 mg/mL)
Standard Protocol: 20-1,000 µg/mL			
Dilution	x	**Prepare 1 part of dye reagent with 4 parts of ddH_2O**	
Test Tube (sample/reagent)	100 µL / 5 mL **(Reagent, 1X)**		
Microplate (sample/reagent)	10 µL / 200 µL **(Reagent, 1X)**		
Enhanced Protocol: 1-25 µg/mL			
Test Tube (sample/reagent)	x	800 µL / 200 µL **(Reagent, 5X)**	
Microplate (sample/reagent)	x	160 µL / 40 µL **(Reagent, 5X)**	
Reaction	Incubate for 5 min at room temperature		
Measurement	Measure absorbance at 595 nm; color will be stable for 60 min		

Ordering information

1. BR01-500 Dual-Range™ Bradford Reagent (1X) 500mL x 1
2. BR05-500 Dual-Range™ Bradford Reagent (5X) 500mL x 1
3. BR05-500-K Dual-Range™ Bradford Protein Assay Kit (5X) 500mL (BR05-500)+ 10 mL BSA (2mg/mL)

VisPRO™ 5 Minutes Protein Stain Kit

VisPRO™ 5 Minutes Protein Stain Kit utilizes imidazole and zinc ions precipitate in the gel and reveal the protein position in only 5 minutes. The detection sensitivity can be reached to 1ng, competitive with silver stain and SYPRO ruby. VisPRO™ stains the gel rather than the protein sample and will not interact with the protein sample. The stained target protein can be eluted directly and apply downstream experiments, such as Western blotting, LCMSMS analysis. The staining solution is also highly stable, non-biohazard to operator and environment.

#VP01-500

Advantages

- Speed : quick staining procedure
- Sensitivity : detect protein level to 1ng
- Compatibility : applicable with downstream procedure

Perfermance

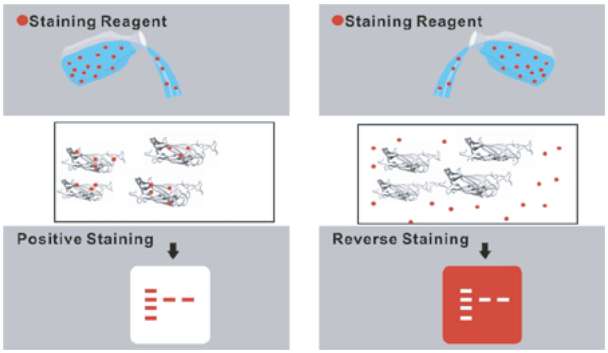


Figure 1. Positive staining vs. Reverse staining. Most protein gel staining methods are based on the principles of positive staining. To obtain an ideal result, the dye molecules must be completely absorbed by target proteins, and that may require a prolonged incubation of many hours, even up to one day. Furthermore, a tedious de-staining procedure may be required to remove the undesirable staining from

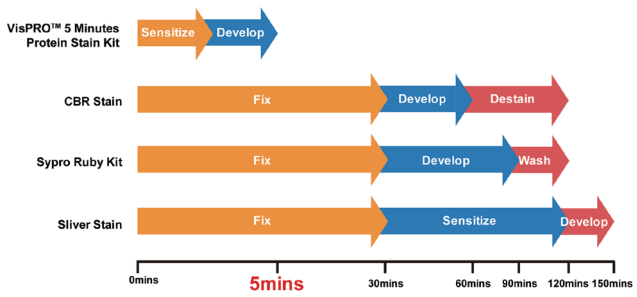


Figure 2. Comparison of the staining time by using VisPRO™ 5 Minutes Protein Stain Kit and other methods. Unlike conventional positive staining methods, reverse staining can be completed in a short time because the target of reverse staining is the gel rather than the proteins. Therefore, reverse staining methods allow researchers to obtain the results promptly.

VisPRO™ 5 Minutes Protein Stain Kit

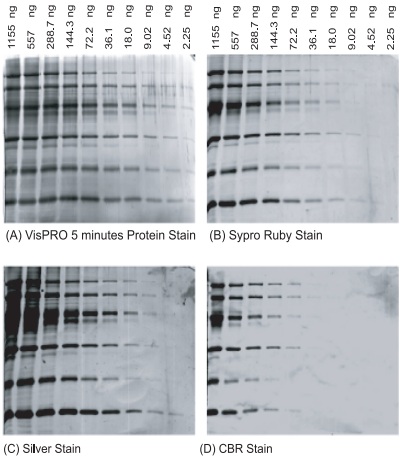


Figure 3. Numerous tests have demonstrated that VisPRO™ 5 Minutes Protein Stain Kit delivers better staining sensitivity than SYPRO Ruby™ stain, silver stain, and Coomassie Brilliant Blue Stain (CBR stain). The protein markers were used for evaluation. The numbers shown above the gels indicate the actual amount of the bovine serum albumin protein.

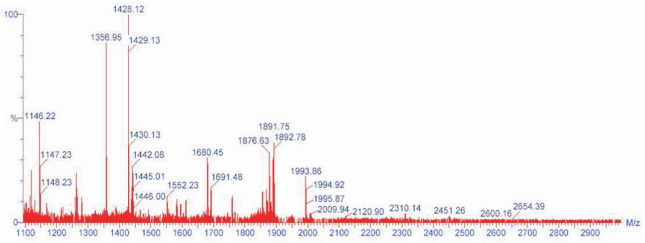


Figure 4. MALDI-TOF analysis of protein spots visualized with the VisPRO™ 5 Minutes Protein Stain Kit. The gel spot of rabbit phosphorylase b (10 ng) was cut and subjected to mass spectrometry. Twenty-two out of fifty signals were categorized as tryptic fragments of phosphorylase b.

Table 1. Comparision of VisPRO™ 5 Minutes Protein Stain Kit with other commonly used methods.

Method	VisPRO™ 5 Minutes Protein Stain Kit	SYPRO Ruby	Silver Stain	CBR Stain
Operate time	5~10 minutes	18 hrs	4~20 hrs	1~8 hrs
Sensitivity	< 1ng	~1ng	~1ng	50ng
Irritant or toxic chemical	None	Acetic acid, Methanol	Acetic acid, Silver Nitrate, Glutaraldehyde	Acetic acid, Methanol
Mass compatibility	Good	Ok	Bad	Ok
Downstream application	1. Western Blotting 2. Electric eluting	No	No	No

Ordering information

1. VP01-125 125 mL solution 1 + 125 mL solution 2
2. VP01-500 500 mL 5X solution 1 + 500 mL 5X solution 2
3. VP05-125 125 mL 5X solution 1 + 125 mL 5X solution 2
4. VP05-500 500 mL 5X solution 1 + 500 mL 5X solution 2

ImmunoFast™ Adjuvant

ImmunoFast™ Adjuvant is a new aqueous emulsify adjuvant which can efficiently elicit significant immunorespond and induce high amount of IgG production in very short time. The aqueous texture makes antigen mixture and injection much easier and the special designed non toxicity formula provide higher survival rate of immunize animal during experiment period.

#IF01-4N

Advantages

- Elicit strong immunorespond with less antigen loading
- High efficiency of antibody production and induce a complete class switch from IgM to IgG
- Easy mixture characteristic with the aqueous texture
- Non-toxicity and harmful effect on the immunized animal

Perfermance

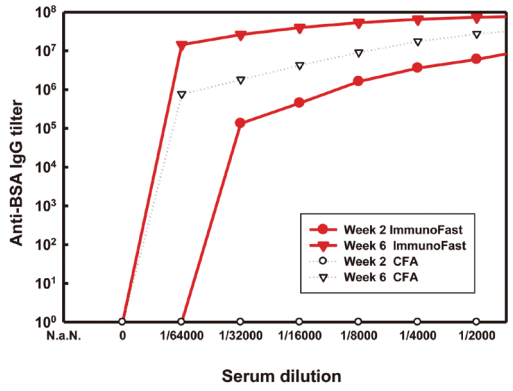


Figure 1. The comparison of immunorespond elicited by ImmunoFast and CFA at the 2nd and the 6th week after the first immunization. Mice were immunized with 50ug of bovine serum albumin in ImmunoFastTM & CFA (complete Freund Adjuvant). The adjuvant boosted in the 2nd, 4th, and 6th weeks. Then serum IgG titers were measured by ELISA.

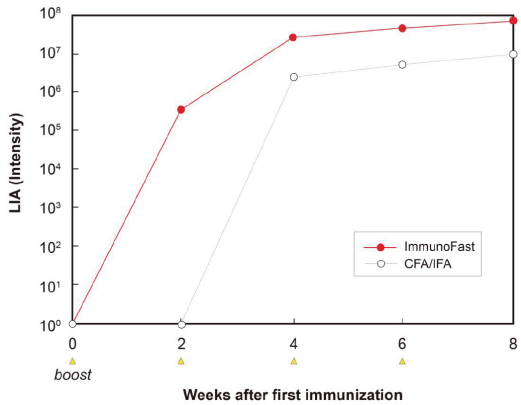


Figure 2. Time required for ImmunoFast and CFA/IFA to induce an appreciable immunorespond. Mice were immunized with 50ug of bovine serum albumin in ImmunoFastTM & CFA / IFA. The adjuvant boosted according to the recommended procedure. Then serum IgG titers were measured by ELISA.

ImmunoFast™ Adjuvant

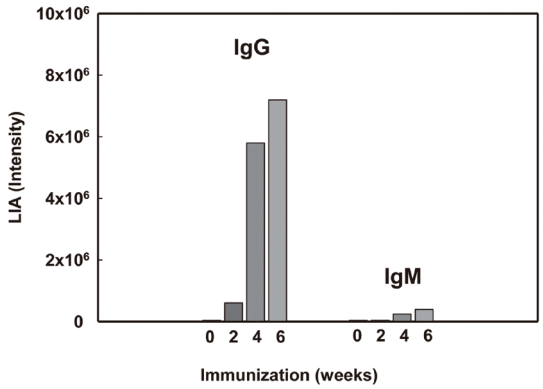
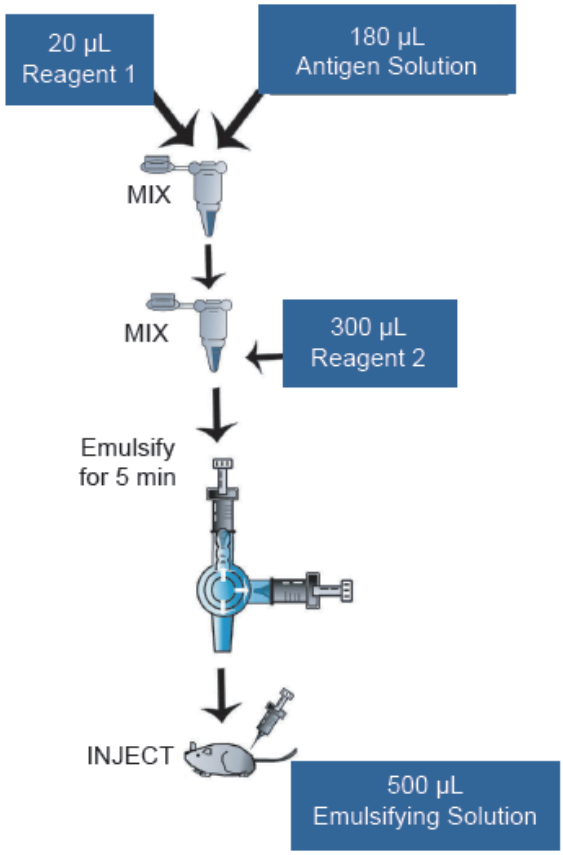


Figure 3. Levels of the elicited immunoglobulin molecules in an ImmunoFast boosted animal. Mice were immunized with 50ug of bovine serum albumin in ImmunoFast. The adjuvant boosted in 2nd, 4th, and 6th week. Then IgG and IgM titers were measured by ELISA.

Quick instruction:



1. Pre-mix 20 µl reagent 1 + 180 µl antigen solution (in water or PBS).
2. Mix the above solution with 300 µl reagent
3. Emulsify for 5 minutes by syringes.
4. Immunize the animal with total 500 µl emulsifying solution whichever appropriate method.
5. Evaluate the titer for animals every two weeks by ELISA or other methods.

Ordering information

1. IF01-4N For 4 injections for mouse
2. IF01-20N For 20 injections for mouse

CytoMore™ Cell Rescue Supplement

CytoMore™ Cell Rescue Supplement (CCRS) are defined chemical components in powder form. It is developed to improve cell culture condition. CCRS has excellent performance for low vitality cells, such as primary cells, mesenchymal stem cells (MSC) or frozen cell lines. To determine the optimal concentration of CCRS to the desired cell, follow the operation manual to create five working mediums under instructed ratio for evaluation.

#CT01-1BT

Advantages

- Animal-free and protein-free formula
- Lot-to-lot consistency
- Cost-effective

Performance

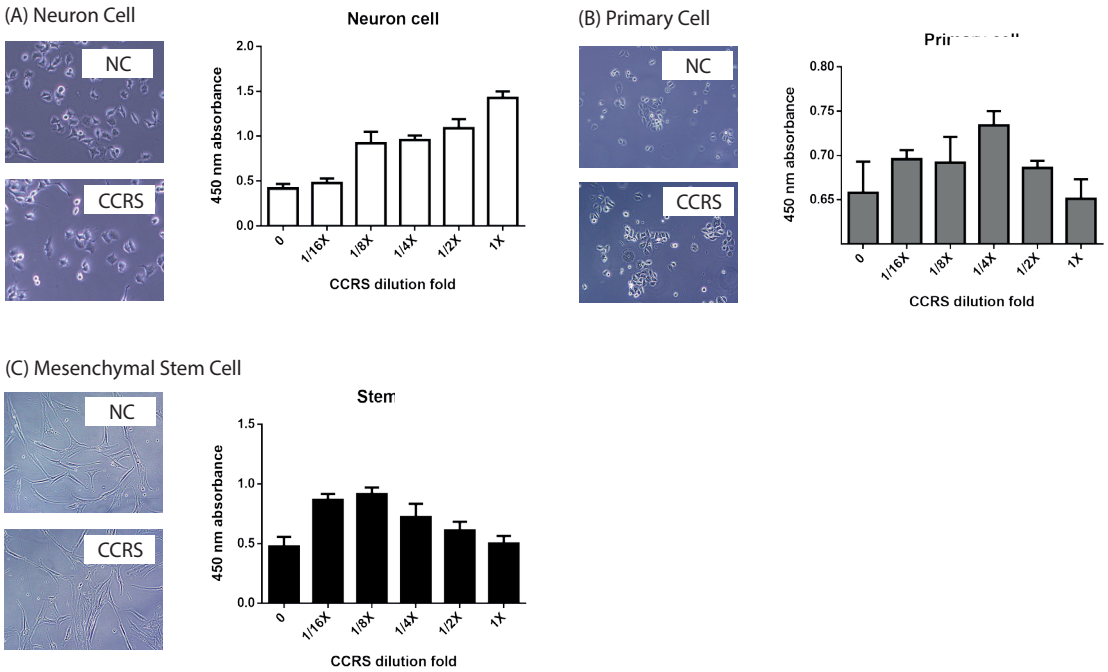


Figure 1. CCRS is used as rescue supplement for cells with poor growth problems. CCRS has been tested its performance in culturing of the neuron cells, the primary cells and the mesenchymal stem cells. The results show different working ratios among the three types of cells. 1X working ratio for neuron cell (A), 1/4X working ratio for primary cell (B), 1/8X working ratio for mesenchymal stem cell (C). The working ratio might vary from cell types and the cell conditions, therefore, conducting the optimal ratio test is necessary for the first use (see quick instruction).

CytoMore™ Cell Rescue Supplement

Quick instructions:

At the first use, follow the protocol and make five working ratio by mixing CCRS with the culture media for the desired cell.

1. Label five 50 mL Centrifuge tubes for serial dilutions as follows: #1 (1X); #2 (1/2X); #3 (1/4X); #4 (1/8X); #5 (1/16X)
2. Add 25 mL regular culture media, such as DMEM or RPMI-1640 based media with 10% fetal bovine serum and antibiotics into tube #2, #3, #4, #5.
3. Reconstitute CCRS by 0.5 mL ddH_2O. The stock solution should be stored at 2-8 °C for several weeks.
4. Dilute the stock solution into 49.5 mL regular culture media.
5. Sterile the culture media containing CCRS by filtering through 0.22 μm filters to tube #1.
6. Transfer 25 mL of media from tube #1 into tube #2 and mix well.
7. Transfer 25 mL of media from tube #2 into tube #3 and mix well. Continue to transfer and mix through tube #5 (see the follow -ing table for CCRS serial dilution).

Tube	Volume of media (mL)	Volume and source of tube (mL)	Final CCRS dilution fold
#1	49.5	0.5 of Stock	1X
#2	25	25 of tube #1 dilution	1/2X
#3	25	25 of tube #2 dilution	1/4X
#4	25	25 of tube #3 dilution	1/8X
#5	25	25 of tube #4 dilution	1/16X

Ordering information

1. CT01-1BT 1 bottle for making 0.5 mL stock solution

HybriMore™ Hybridoma Culture Supplement

HybriMore™ Hybridoma Culture Supplement (prev. Hybri-More™ Hybridoma cloning factor) is a special supplement which is adding in the medium when culturing hybridoma cells. It can substantially provide necessary growth factor during cell culture and therefore successfully increase the cloning efficiency and raise the survival rate of hybridoma cell. No negative effect to hybridoma cell with defined chemical component and defined concentration.

#HB01-1L

Advantages

- Increase cloning efficiency and cell survival rate
- Growth promoting supplement with defined chemical component and concentration
- Better signal-to-noise ratio of hybridoma supernatant for mAb screening

Perfermance

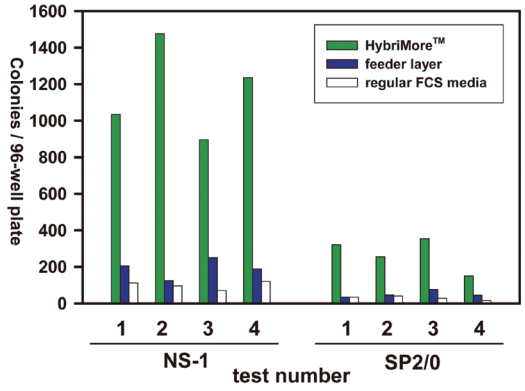


Figure 1. Comparison of the cloning efficiency of the newly fused hybridoma cells. The newly PEG fused hybridoma cells were plated into a 96-well plate containing FCS media with HybriMore™ (green bars), FCS media with feeder layer (blue bars), or regular FCS media (white bars). Hybridoma cells were subject to HAT selection 14 days after cell fusion. The numbers of viable hybridoma colonies were visually counted under a microscope. Two mouse myeloma fusion partners, NS-1 and SP2/0, were evaluated by four independent fusion experiments with freshly prepared mouse spleens.

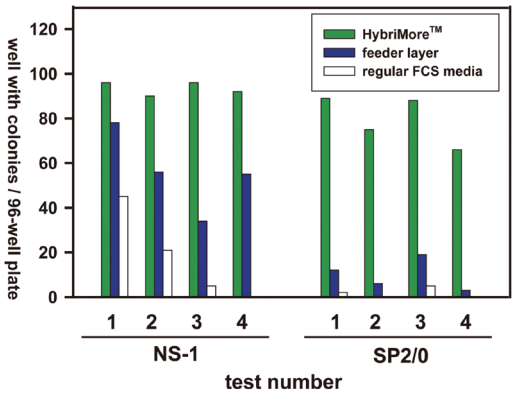


Figure 2. Comparison of the successful rate of monoclonizing hybridoma cells. Eight clones of hybridoma cells from NS-1 or SP2/0 fusion partners were monoclonized in the media containing FCS media with HybriMore™ (green bars), FCS media with feeder layer (blue bars), or regular FCS media (white bars). The numbers of viable hybridoma colonies in a well were visually counted under a microscope.

HybriMore™ Hybridoma Culture Supplement

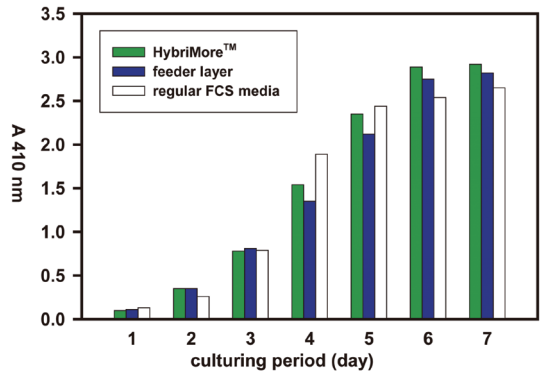


Figure 1. Comparison of the cloning efficiency of the newly fused hybridoma cells. The newly PEG fused hybridoma cells were plated into a 96-well plate containing FCS media with HybriMore™ (green bars), FCS media with feeder layer (blue bars), or regular FCS media (white bars). Hybridoma cells were subject to HAT selection 14 days after cell fusion. The numbers of viable hybridoma colonies were visually counted under a microscope. Two mouse myeloma fusion partners, NS-1 and SP2/0, were evaluated by four independent fusion experiments with freshly prepared mouse spleens.

Ordering information

1. HB01-1L 1 bottle for making 1 mL sotck solution (for 1L culture medium)

General Buffers

PBS Buffer, 10X

PBS10-1L	1 L of 10X Solution	pH 7.4

10X PBS Buffer is a pH-adjusted blend of ultrapure-grade phosphate buffers and saline solutions which, when diluted to a 1X working concentration, contains 145 mM NaCl, 10 mM KH_2PO_4.

PBS Buffer, 25X (liquid pack)

PBS200P	30 liquid packs, 1 pack for making 200 ml of 1X PBS Buffer	pH 7.4

10X PBS Buffer is a pH-adjusted blend of ultrapure-grade phosphate buffers and saline solutions which, when diluted to a 1X working concentration, contains 145 mM NaCl, 10 mM KH_2PO_4.

PBS Tween 20 Buffer, 10 X

PBST10-1L	1 L of 10X Solution	pH 7.4

10X PBST Buffer is a pH-adjusted blend of ultrapure-grade phosphate buffers and saline solutions. When diluted to a 1X working concentration with ddH^2O, it contains 145mM NaCl, 10 mM KH2PO4, 0.05% Tween-20.

PBS Tween 20 Buffer, 25X (liquid pack)

PBST200P	30 liquid packs, 1 pack for making 200 ml of 1X PBST Buffer	pH 7.4

25X PBS Buffer is a pH-adjusted blend of ultrapure-grade phosphate buffers and saline solutions which, when diluted to a 1X working concentration with 200 ml of ddH_2O, contains 145 mM NaCl, 10 mM KH_2PO_4.

TBS Buffer, 10X

TBS10-1L	1 L of 10X Solution	pH 7.4

10X TBS buffer is a pH-adjusted blend of ultrapure-grade phosphate buffers and saline solutions which, when diluted to a 1X working concentration, contains 25mM Tris, 150mM NaCl.

TBS Buffer, 25X (liquid pack)

TBS200P	30 liquid packs, 1 pack for making 200 ml of 1X TBS Buffer	pH 7.4

25X TBS Buffer is a pH-adjusted blend of ultrapure-grade phosphate buffers and saline solutions which, when diluted to a 1X working concentration with 200 ml of ddH_2O for each buffer pack, contains 25mM Tris, 150mM NaCl.

TBS Tween 20 Buffer, 10X

TBST10-1L	1 L of 10X Solution	pH 7.4

10X TBS Tween 20 buffer is a pH-adjusted blend of ultrapure-grade phosphate buffers and saline solutions which, when diluted to a 1X working concentration, contains 25mM Tris, 150mM NaCl, 0.05% Tween-20.

TBS Tween 20 Buffer, 25X (liquid pack)

TBST200P	30 liquid packs, 1 pack for making 200 ml of 1X TBST Buffer	pH 7.4

25X TBS Tween 20 buffer is a pH-adjusted blend of ultrapure-grade phosphate buffers and saline solutions which, when diluted to a 1X working concentration with 200 ml ddH_2O, contains 25mM Tris, 150mM NaCl, 0.05% Tween-20.

General Buffers

SDS-PAGE Running Buffer, 10X

RB10-1L 1 L of 10X Solution pH 8.3

SDS-PAGE Running Buffer is used for general SDS-PAGE Gels running. When reconstituted to 1X working solution, it contains 25mM Tris, 192mM Glycine, 0.1% SDS.

SDS-PAGE Running Buffer, powder pack

RB500P 20 powder packs, 1 pack for making 500 ml of 1X SDS-PAGE Running Buffer pH 8.3

SDS-PAGE Running Buffer Powder is used for general SDS-PAGE Gels running. The powder is made to have long shelf life, smaller volume, high resolution and fast electrophoresis. When reconstituted to 1X working solution, it contains 25mM Tris, 192mM Glycine, 0.1% SDS.

Western Blot Transfer Buffer, 10X

WTB10-1L 1 L of 10X Solution pH 8.3

Western Blot Transfer Buffer is used for general wet or semi-dry western blot transfer procedure. When reconstituted to 1X working solution, it contains 25mM Tris, 192mM Glycine.

Western Blot Transfer Buffer, powder pack

WTB500P 20 powder packs, 1 pack for making 500 ml of 1X Western Blot Transfer Buffer pH 8.3

Western Blot Transfer Buffer is used for general wet or semi-dry western blot transfer procedure. The powder is made to have long shelf life, smaller volume, high resolution and fast transfer. When reconstituted to 1X working solution, it contains 25mM Tris, 192mM Glycine.

VISUAL PROTEIN

Your Reliable Partner

www.visualprotein.com