

Western Blotting

Antibody Conjugates – Peroxidase

| Catalog Number | Name | Features |
|------------------------------|--|--|
| Peroxidase Conjugates | | |
| A5420 | Anti-Goat IgG Peroxidase Conjugate (whole molecule); Source: Rabbit | Binds all goat Igs |
| A9452 | Monoclonal Anti-Goat/Sheep IgG Peroxidase Conjugate; Clone No. GT-34, Source Mouse IgG1 | Binds goat IgG1 and IgG2, sheep and bovine IgG |
| A9917 | Anti-Mouse IgG Peroxidase Conjugate (Fab specific); | Binds all mouse Igs |
| A3682 | Anti-Mouse IgG Peroxidase Conjugate (Fab specific); Source: Goat | Binds all mouse Igs. Adsorbed to reduce background staining with the bovine, horse, and human samples |
| A0168 | Anti-Mouse IgG Peroxidase Conjugate (Fc specific); Source: Rabbit | Binds mouse IgG; does not bind other mouse Igs. Adsorbed to reduce background staining with human samples |
| A2554 | Anti-Mouse IgG Peroxidase Conjugate (Fc specific); Source: Rabbit | Binds mouse IgG; does not bind other mouse Igs. Adsorbed to reduce background staining with bovine, horse, or human samples |
| A9044 | Anti-Mouse IgG Peroxidase Conjugate (whole molecule); Source: Rabbit | Binds all mouse Igs |
| A1949 | Monoclonal Anti-Rabbit IgG Peroxidase Conjugate (γ-chain specific); Clone No RG-96, Source: Mouse IgG1 | Binds rabbit IgG; does not bind other rabbit Igs |
| A9169 | Anti-Rabbit IgG Peroxidase Conjugate (whole molecule); Source: Goat | Binds all rabbit Igs |
| A0545 | Anti-Rabbit IgG Peroxidase Conjugate (whole molecule); Source: Goat | Binds all rabbit IgGs. Adsorbed to reduce background staining with human samples |
| A2074 | Monoclonal Anti-Rabbit Immunoglobulins Peroxidase Conjugate; Clone No. RG-16, Source: Mouse IgG1 | Binds only rabbit Igs. Does not react with reduced rabbit Igs |
| P8651 | Protein A Peroxidase Conjugate | Binds IgG only from most mammals, except rat, goat, and sheep |
| P8170 | Protein G Recombinant Peroxidase Conjugate | Binds IgG only from most mammals, except cat; binds chicken IgG |
| A7340 | Anti-GST Peroxidase Conjugate; Source: Rabbit | IgG fraction from antiserum. By ELISA, the antibody does not recognize GST from rat, rabbit, porcine, or bovine liver, or from human placenta |
| A8592 | ANTI-FLAG® M2-Peroxidase Conjugate | Especially useful in detection of FLAG® fusion proteins expressed in murine host, where secondary anti-mouse antibodies may cause cross-reactivity |
| A3151 | Avidin Peroxidase Conjugate; Source: Egg Whites | Lyophilized powder |
| A7419 | Avidin Peroxidase Conjugate; Source: Egg Whites | Buffered aqueous solution |
| E2886 | ExtrAvidin® Peroxidase Conjugate; Source: Egg Whites | Buffered aqueous solution |
| S5512 | Streptavidin Peroxidase Conjugate; Source: <i>Streptomyces avidinii</i> | Lyophilized powder |
| S2438 | Streptavidin Peroxidase Polymer Conjugate ultra sensitive; Source: <i>Streptomyces avidinii</i> | Buffered aqueous solution |

Western Blotting

Substrates for Western Blotting – Peroxidase

| Substrate | Color | Product(s) | Catalog Number | Comments |
|---------------------|------------------|---|------------------------------|---|
| TMB | Deep Blue | TMB Liquid Substrate for Membranes | T0565 | TMB (3,3',5,5'-Tetramethylbenzidine) represents a safer, more stable alternative to DAB. TMB develops a permanent, insoluble dark blue reaction product. Product T0565 is recommended for membrane application, but not ELISA (microwell) procedures. This product is supplied ready-to-use. |
| DAB | Brown | SigmaFAST™ DAB Tablets | D4418 | DAB (3,3'-Diaminobenzidine) is more sensitive than AEC. SigmaFAST DAB tablets have been developed for use in immunohistology as well as Western blotting and require no additional buffers or steps to prepare an active substrate solution. Each tablet set dissolved in 15 ml of deionized water yields a ready-to-use buffered solution containing DAB and urea hydrogen peroxide. |
| | | DAB Liquid Substrate | D7304 | The DAB Liquid Substrate System is recommended for immunohistology as well as Western blotting applications, but not for ELISA (microwell) procedures. DAB Liquid Substrate System includes 25 ml of 10× DAB Liquid Chromagen and 225 ml of ready-to-use buffer/peroxide solution. |
| | | SigmaFAST DAB with Metal Enhancer Tablets | D0426 | DAB with Metal Enhancer offers increased sensitivity over alternative DAB formats. SigmaFAST DAB with Metal Enhancer Tablets require no additional buffers or steps to prepare an active substrate. The DAB reaction is enhanced by the addition of CoCl ₂ , and produces a more intense stain which is resistant to alcohol. Each tablet set dissolved in 5 ml of deionized water yields a ready-to-use buffered solution. |
| CPS | Chemiluminescent | Chemiluminescent Peroxidase Substrate | CPS160 CPS1120 CPS1300 | Chemiluminescent Peroxidase Substrate offers picomole detection, up to 100-fold improvement in signal-to-noise ratio over other luminol-peroxidase formulations. |
| AEC | Red | AEC Staining Kit | AEC101 | The AEC (3-amino-9-ethylcarbazole) Staining Kit contains universal reagents for staining peroxidase labeled compounds in Western blotting and immunohistochemistry. AEC produces an insoluble end product. The AEC Kit is not recommended for ELISA (microwell) procedures. Each kit contains 3 ml of concentrated acetate buffer, AEC chromagen, and hydrogen peroxide in a dropper bottle for easy dispensing. |
| 4-Chloro-1-Naphthol | Blue | 4-Chloro-1-Naphthol Tablets | C6788 | 4-Chloro-1-naphthol is recommended for Western blotting. This substrate produces an end product that is blue in color and can easily be observed visually. |
| | | 4-Chloro-1-Naphthol Solution | C8302 | |

Antibody Conjugates

| Catalog Number | Name | Features |
|--|---|---|
| Alkaline Phosphatase Conjugates | | |
| A4062 | Anti-Goat IgG AP Conjugate (whole molecule); Source: Rabbit | Binds all goat Igs. Adsorbed to reduce background staining with human samples |
| A4187 | Anti-Goat IgG AP Conjugate (whole molecule); Source: Rabbit | Binds all goat Igs |
| A8062 | Monoclonal Anti-Goat/Sheep IgG AP Conjugate; Clone No. GT-34, Source: Mouse IgG1 | Binds goat IgG1 and IgG2, sheep and bovine IgG |
| A2179 | Anti-Mouse IgG AP Conjugate (Fab specific); Source: Goat | Binds all mouse Igs. Adsorbed to reduce background staining with bovine, horse, or human samples |
| A1682 | Anti-Mouse IgG AP Conjugate (Fab specific); Source: Goat | Binds all mouse Igs. Adsorbed to reduce background staining with human or rat samples |
| A2429 | Anti-Mouse IgG AP Conjugate (Fc specific); Source: Goat | Binds mouse IgG; does not bind other mouse Igs. Adsorbed to reduce background staining with bovine, horse, or human samples |
| A3562 | Anti-Mouse IgG AP Conjugate (whole molecule); Source: Goat | Binds all mouse Igs |
| A2556 | Monoclonal Anti-Rabbit IgG AP Conjugate (γ-chain specific); Clone No: RG-96, Source: Mouse IgG1 | Binds rabbit IgG; does not bind other rabbit Igs |
| A2306 | Monoclonal Anti-Rabbit Immunoglobulins AP Conjugate; Clone No: RG-16, Source: Mouse IgG1 | Binds only rabbit Igs. Provides reduced background with human, guinea pig, rat, bovine, turkey, chicken, goat, sheep, horse, dog, pig, or cat samples |
| A3687 | Anti-Rabbit IgG AP Conjugate (whole molecule); Source: Goat | Binds all rabbit Igs |
| A3812 | Anti-Rabbit IgG AP Conjugate (whole molecule); Source: Goat | Binds all rabbit Igs. Adsorbed to reduce background staining with human samples |
| A5838 | Anti-GST AP Conjugate; Source: Rabbit | IgG fraction of antiserum; by ELISA, the antibody does not recognize GST from rat, rabbit, porcine, or bovine liver, or from human placenta |
| A9469 | ANTI-FLAG® M2 AP Conjugate | Especially useful in detection of FLAG® fusion proteins expressed in murine host, where secondary anti-mouse antibodies may cause cross-reactivity |
| P8170 | Protein G AP Conjugate | Lyophilized powder |
| A7284 | Avidin AP Conjugate | 30% concentration in 0.85% sodium chloride |
| E2636 | ExtrAvidin® AP Conjugate Source: Egg Whites | Buffered aqueous solution |
| S2890 | Streptavidin AP Conjugate; Source: <i>Streptomyces avidinii</i> | Lyophilized powder |

Western Blotting

Substrates for Western Blotting – Alkaline Phosphatase

| Substrate | Color | Product(s) | Catalog Number | Comments |
|-----------------------------------|------------------|--|------------------------------|--|
| Fast Red TR/ Naphthol AS-MX | Red | SigmaFAST™ Fast Red TR/Naphthol AS-MX Tablets | F4523 | SigmaFAST Fast Red TR/Naphthol AS-MX Tablets have been developed for use in immunohistology and Western blotting applications. Sigma FAST Fast Red TR/Naphthol AS-MX tablets contain 0.6 mM levamisole to block endogenous alkaline phosphatase activity. Each tablet set dissolved in 10 ml of deionized water yields a ready-to-use buffered solution. |
| BCIP/NBT | Purple | BCIP/NBT Liquid Substrate System SigmaFAST BCIP/NBT Tablets | B6404/ B1911 B5655 | BCIP/NBT (5-Bromo-4-chloro-3-indolyl phosphate dipotassium/nitrotetrazolium blue chloride) produces an insoluble, dark purple end product for immunohistochemistry and Western blotting applications. BCIP/NBT offers greater sensitivity than Fast Red TR/Naphthol AS-MX Tablets. The BCIP/NBT Liquid Substrate System is not recommended for ELISA (microwell) procedures. Each BCIP/NBT tablet , when dissolved in deionized water, yields a ready-to-use buffered solution of BCIP/NBT, pH 9.5. |
| CDP-Star® | Chemiluminescent | CDP-Star Chemiluminescent Substrate Solution | C0712 | CDP-Star, a sensitive, chemiluminescent substrate, allows rapid, reproducible detection of alkaline phosphatase labeled molecules in Northern, Southern, and Western blotting applications. Detection of alkaline phosphatase labeled molecules with CDP-Star is extremely sensitive as a result of low background luminescence coupled with high intensity and prolonged light output from the enzyme catalysis. Maximum light emission occurs at ~60 minutes and continues for up to 24 hours, allowing for multiple film exposures and/or sensitive detection of targets present in small amounts. For convenience, CDP-Star is supplied as a 0.25 mM ready-to-use aqueous solution. CDP-Star functions on both neutral and positively charged nylon. |



Membranes & Blotting Paper for Western Blotting

Nitrocellulose Membranes

Nitrocellulose membranes are the most popular matrix used in protein blotting. All of the following are suitable for Western blotting. Most proteins can be successfully blotted using a 0.45 µm pore size membrane. For proteins of low molecular weight or peptides, a 0.2 µm pore size membrane is recommended.

Ordering Information

| Cat. No. | Product Description |
|--------------|---|
| N7892 | Nitrocellulose Membrane 0.2 µm pore size, 15 × 15 cm |
| N8017 | Nitrocellulose Membrane 0.2 µm pore size, 20 × 20 cm |
| N8142 | Nitrocellulose Membrane 0.45 µm pore size, 7 × 10 cm |
| N8267 | Nitrocellulose Membrane 0.45 µm pore size, 15 × 15 cm |
| N8392 | Nitrocellulose Membrane 0.45 µm pore size, 20 × 20 cm |

Immobilon™-P PVDF Membranes

Immobilon-P PVDF (Polyvinylidene Difluoride) membranes have been optimized for Western blotting and offer better handling and staining than nitrocellulose. All Immobilon-P PVDF membranes have a pore size of 0.45 µm.

Ordering Information

| Cat. No. | Product Description |
|--------------|--|
| P2438 | Immobilon-P PVDF Membrane 9 × 12 cm |
| P4188 | Immobilon-P PVDF Membrane 10 × 10 cm |
| P2563 | Immobilon-P PVDF Membrane 15 × 15 cm |
| P2813 | Immobilon-P PVDF Membrane 26 × 26 cm |
| P2938 | Immobilon-P PVDF Membrane 26.5 cm × 3.75 m |

QuickDraw™ Blotting Paper

QuickDraw blotting paper is used for Northern, Southern, and Western blots. Extra-thick paper is ideal for Western blotting to sandwich the gel and the membrane. The thick paper may be used as a filter support for dot blots. Medium thickness paper is suitable for use as a wick during transfers. QuickDraw paper is available in a variety of sizes to meet your needs.

Ordering Information

| Cat. No. | Product Description |
|--------------|--|
| P6664 | Blotting Paper, Medium-Thick, 20 × 20 cm |
| P6914 | Blotting Paper, Medium-Thick, 30 × 30 cm |
| P9039 | Blotting Paper, Medium-Thick, 33 × 56 cm |
| P9164 | Blotting Paper, Thick, 33 × 56 cm |
| P6928 | Blotting Paper, Extra-Thick, 7 × 8 cm |
| P7796 | Blotting Paper, Extra-Thick, 7 × 10 cm |
| P8046 | Blotting Paper, Extra-Thick, 10 × 15 cm |
| P6803 | Blotting Paper, Extra-Thick, 11 × 14 cm |
| P8549 | Blotting Paper, Extra-Thick, 14 × 20 cm |
| P7921 | Blotting Paper, Extra-Thick, 15 × 15 cm |
| P8171 | Blotting Paper, Extra-Thick, 20 × 20 cm |
| P7176 | Blotting Paper, Extra-Thick, 20 × 25 cm |