



HRP Membrane Color Substrates

Sensitivity, reliability and affordability!

KPL offers two substrates commonly used to detect horseradish peroxidase (HRP) conjugated antibodies that bring complementary benefits to membrane detection; TMB (3, 3', 5, 5'-tetramethylbenzidine) Membrane Substrate and 4 CN (4-chloro-1-naphthol) Membrane Substrate. TMB substrate offers the most sensitive colorimetric detection for blotting applications and is recommended when high signal and low background are required. 4 CN substrate is highly reliable and is notable for its characteristically low background.

- **TMB Membrane Substrates (1- and 3-Component)**

In the presence of peroxidase conjugate, KPL's TMB Membrane Substrates produce a stable, dark blue precipitate at the site of a positive reaction, enabling detection of as little as 50 pg of peroxidase. Our TMB substrates are available as 1- and 3- component solutions. 1-component TMB Peroxidase Substrate is ready to use and contains hydrogen peroxide and buffer. Our 3-component TMB contains TMB in an organic base, H₂O₂ in a citric acid buffer and a third component, TMB Membrane Enhancer. It provides sensitivity equivalent to 1-component TMB at an eco-

nomonic price. The substrate may be adapted as a soluble substrate for ELISA by omitting TMB Membrane Enhancer. Both substrates perform equally well on nitrocellulose and PVDF membranes.



4 CN TMB

4 CN produces a distinct, blue-purple precipitate and extremely low background.

TMB produces a blue precipitate and provides greater sensitivity than 4 CN.

- **4 CN Peroxidase Substrate (2-Component)**

4 CN (4-chloro-1-naphthol) Peroxidase Membrane Substrate produces a purple precipitate at the reaction site in the presence of peroxidase conjugates. Due to its low background, 4 CN presents a desirable alternative to other, more sensitive substrates when background poses a problem.



Benefits of KPL's HRP Membrane Substrates

TMB Peroxidase Membrane Substrate

- Most sensitive colorimetric substrate for blotting
- Delivers results at the picogram level
- Recommended for both kinetic and endpoint ELISA
- Contains no harmful organic solvents; safer and more sensitive than DAB or AEC.
- 1-Component TMB-no preparation required
Ensures more consistent results
- 3-Component TMB-same performance as 1-Component TMB at an economic price.
- Blots remain stable with minimal fading.

4 CN Peroxidase Substrate

- Easy mix-and-use, two-component solutions
- Very low background, moderate sensitivity
- High contrast image ideal for photography and publication

Ordering Information

| Catalog# | Description | Size |
|--|---------------------------------------|----------------------|
| 50-77-18 | TMB Membrane Substrate (1-Component) | 100 mL |
| 50-77-03 | TMB Membrane Substrate (1-Component) | 200 mL |
| 50-77-04 | TMB Membrane Substrate (1-Component) | 1 L |
| 50-77-00 | TMB Membrane Substrate (3-Component) | 440 mL |
| 50-77-01 | TMB Membrane Enhancer | 40 mL |
| 50-73-00 | 4 CN Substrate System (2-Component) | 600 mL |
| 50-73-04 | 4 CN Substrate System (2-Component) | 2700 mL |
| Protein Detector TMB Western Blot Kit | | |
| 54-11-50 | Protein Detector TMB Western Blot Kit | 2500 cm ² |
| Detector Block | | |
| 71-83-00 | Detector Block | 240 mL |

To order or for more information on KPL's line of protein detection products, contact us at 800.638.3167 / 301.948.7755, fax 301.948.0169 or visit us at www.kpl.com.

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KPL provides a broad range of assay support reagents for Western blot detection. Conjugate stabilizers, diluents, block and wash solutions are offered in convenient stable liquid form to ensure accurate reproducible results, blot after blot. Our Detector Block is ideal for use as a diluent/block solution for Western blots, Southern blots and Northern blots on a variety of membranes.

• Detector™ Block

Detector Block is recommended as a general blocking agent in membrane-based detection assays. It is especially useful when traditional blocking solutions (*i.e.*, milk, BSA, casein) reduce sensitivity or do not adequately block background. Detector Block can be used as both a blocking solution and a conjugate diluent in membrane applications.



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