



# **TMB SUBSTRATE KIT, PEROXIDASE (HRP), (3,3', 5,5'-TETRAMETHYLBENZIDINE)**

**SKU:** SK-4400



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## **DESCRIPTION**

TMB (3,3', 5,5' tetramethylbenzidine dihydrochloride) is a sensitive chromogen substrate for peroxidase and a non-carcinogenic substitute for benzidine. TMB can be used for blotting, immunohistochemical, and *in situ* hybridization applications. Slides stained with TMB can be dehydrated and permanently mounted and the soluble blue product, produced in the absence of the stabilizing solution, is useful for ELISA assays.

The TMB HRP Substrate Kit (SK-4400) contains the reagents needed to produce either a precipitating blue reaction product or a soluble blue reaction product. This kit also contains a stabilizing solution which, when added to the working solution, allows the development of a blue precipitate. Kit materials are pre-packaged in convenient dropper bottles.

### **Features:**

- Greater sensitivity than conventional substrates

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- Stock solutions supplied in convenient dropper bottles promoting ease of handling
- No wait times for mixing and dissolving powders or tablets
- Sufficient reagents to produce 300 ml of working solution

## SPECIFICATIONS

<b>Chromogen Color</b>	Blue
<b>Detection Enzyme</b>	Peroxidase
<b>Microscopy</b>	Brightfield, Spectral Imaging
<b>Mounting Medium Type</b>	Non-Aqueous (Permanent)
<b>Unit Size</b>	1 Kit
<b>Applications</b>	Immunohistochemistry / Immunocytochemistry, In situ hybridization, Blotting Applications, Elispot, ELISAs
<b>Safety Title</b>	WARNING: Cancer - <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>
<b>Substrate Reaction Product</b>	Precipitating Reaction Product

## KIT COMPONENTS

- 6 ml TMB Reagent 1
- 6 ml TMB Reagent 2
- 6 ml TMB Reagent 3
- 6 ml TMB Reagent 4

## TECHNICAL INFORMATION

TMB (3,3', 5,5' tetramethylbenzidine dihydrochloride) is a sensitive chromogen substrate for peroxidase and a non-carcinogenic substitute for benzidine. TMB can be used for blotting, immunohistochemical, and *in situ* hybridization applications. Slides stained with TMB can be dehydrated and permanently mounted and the soluble blue product, produced in the absence of the stabilizing solution, is useful for ELISA assays.

### Counterstain / Substrate Compatibility

This table is designed as a reference to determine the optimal counterstain / substrate combination for your application. Consideration should be given to tissue type, antigen

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unmasking protocol, and other detection parameters to achieve the desired staining intensity.

Substrate	Catalog Number	Hematoxylin (H-3404) Hematoxylin QS (H-3401)	Methyl Green (H-3402)	Nuclear Fast Red (H-3404)
ImmPACT DAB (brown)	<a href="#">SK-4105</a>	Excellent Contrast	Excellent Contrast	Fair Contrast
ImmPACT DAB EqV (brown)	<a href="#">SK-4103</a>	Excellent Contrast	Excellent Contrast	Fair Contrast
DAB (brown)	<a href="#">SK-4100</a>	Excellent Contrast	Excellent Contrast	Fair Contrast
DAB-Ni (gray-black)	<a href="#">SK-4100</a>	Excellent Contrast	Fair Contrast*	Good Contrast
ImmPACT AEC (red)	<a href="#">SK-4205</a>	Excellent Contrast	Counterstain Incompatibility**	Color Incompatibility
ImmPACT AMEC Red (red)	<a href="#">SK-4285</a>	Excellent Contrast	Counterstain Incompatibility**	Color Incompatibility
AEC (red)	<a href="#">SK-4200</a>	Excellent Contrast	Counterstain Incompatibility**	Color Incompatibility
TMB (blue)	<a href="#">SK-4400</a>	Color Incompatibility	Counterstain Incompatibility	Excellent Contrast
ImmPACT VIP (purple)	<a href="#">SK-4605</a>	Fair Contrast	Excellent Contrast	Poor Contrast
Vector VIP (purple)	<a href="#">SK-4600</a>	Fair Contrast	Excellent Contrast	Poor Contrast
ImmPACT SG (blue-gray)	<a href="#">SK-4705</a>	Poor Contrast	Good Contrast	Excellent Contrast
SG (blue-gray)	<a href="#">SK-4700</a>	Poor Contrast	Good Contrast	Excellent Contrast
ImmPACT NovaRED (red)	<a href="#">SK-4805</a>	Excellent Contrast	Excellent Contrast***	Color Incompatibility
Vector NovaRED (red)	<a href="#">SK-4800</a>	Excellent Contrast	Excellent Contrast***	Color Incompatibility
ImmPACT Vector Red (magenta)	<a href="#">SK-5105</a>	Excellent Contrast	Excellent Contrast	Color Incompatibility
Vector Red (magenta)	<a href="#">SK-5100</a>	Excellent Contrast	Excellent Contrast	Color Incompatibility

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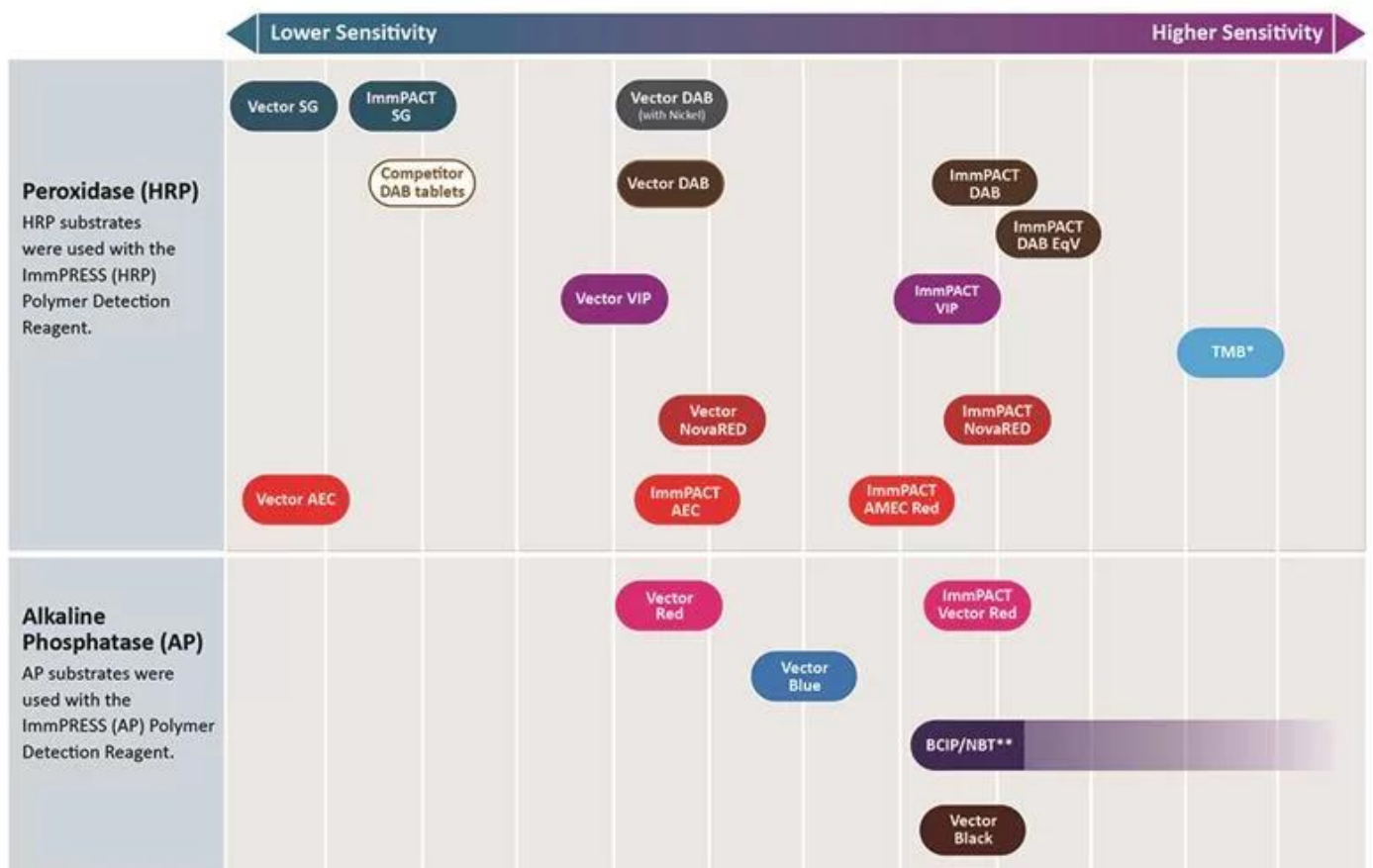
Vector Black (black)	<a href="#">SK-5200</a>	Excellent Contrast	Excellent Contrast*	Excellent Contrast
Vector Blue (blue)	<a href="#">SK-5300</a>	Color Incompatibility	Good Contrast	Excellent Contrast
BCIP / NBT (indigo)	<a href="#">SK-5400</a>	Color Incompatibility	Excellent Contrast*	Excellent Contrast

\*This substrate shows a slight decrease in sensitivity following the methyl green protocol. This decrease can be minimized by reducing the heat incubation and acetone rinse times.

\*\*Substrate dissolves in acetone wash.

\*\*\*A slight color change in ImmPACT NovaRED and Vector NovaRED reaction product may be seen using methyl green.

### Relative Sensitivity of Substrates in Immunohistochemistry



\* Reaction product deposition not discreet or reliable for IHC. \*\* Longer incubation times increase sensitivity.

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## DOCUMENTS

- [Safety Data Sheet](#)
- [Enzyme Substrates Brochure](#)
- [Enzyme Substrate Combinations Chart](#)
- [Counterstain/Substrate Compatibility Chart](#)
- [User Guide](#)
- [Download CoA](#)
- [Datasheet](#)

## GALLERY IMAGES



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