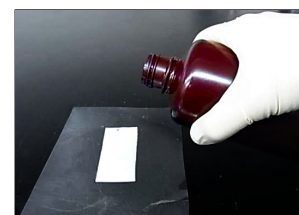


Colorimetric detection reagent for western blotting

# TMB Solution for Western Blotting

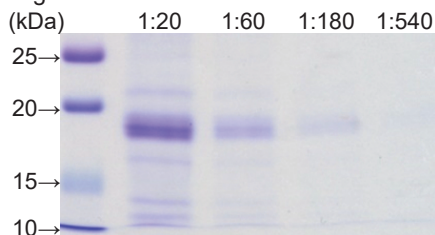
TMB (tetramethyl benzidine) solution is used with horseradish peroxidase (HRP)-based western blotting procedure, but not applicable for ELISA or immunohistochemistry.

- **Convenience** : No CCD-camera-equipped imager or X-ray film needed
- **Sensitivity** : Low picogram level
- **Safety** : Does not contains DAB or o-Dianisidine
- **Ready to use** : Does not need to dilute

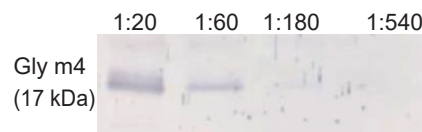


## Application 1: Gly m4, a major soybean allergen

● CBB staining



● Western blotting



Sample : Soy milk, dilution ratio as above  
Detection : TMB Solution for Western Blotting; 5 minutes reaction time

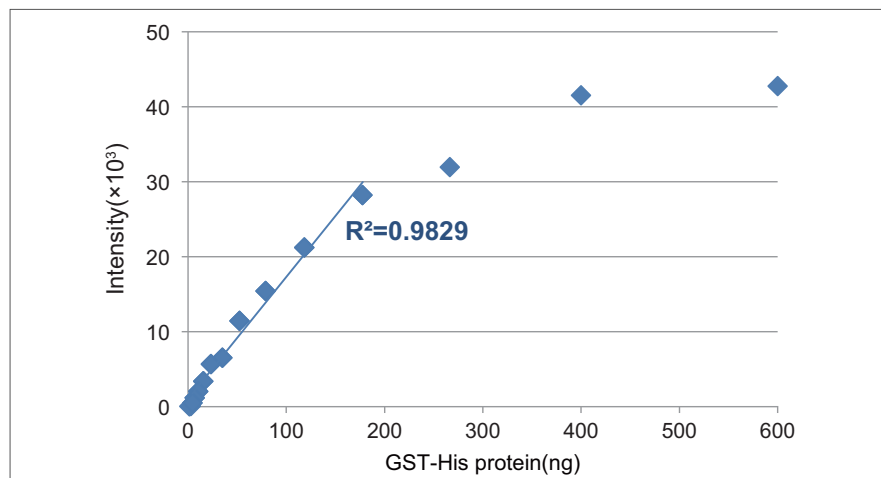
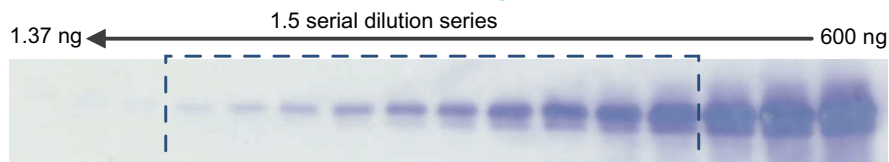
Data courtesy of Professor Tatsuya Moriyama and Dr. Erika Yano, Faculty of Agriculture, Department of Applied Biological Chemistry, Kinki University

## Reference data 1: Comparison with other picogram-level chemiluminescence kits and colorimetric substrates

TMB Solution for Western Blotting; incubation time, 10 minutes	
	TMB Solution for Western Blotting
Chemiluminescence kits / exposure time, 10 minutes	
	Chemi-Lumi One L (#07880)
	Product A from competitor
	Product B from competitor
Other colorimetric substrates / incubation time, 10 minutes	
	Peroxidase Stain Kit (#26652-70)
	Peroxidase Stain DAB Kit (#25985-50)
	Peroxidase Stain DAB Kit + Metal Enhancer for DAB Stain (#07388-24)

Sample : HeLa cell extraction, 2 times dilution started from 12 ug  
 Primary antibody : Anti-β-actin mAb manufactured by MBL, #177-3, X 5,000 dilution  
 Secondary antibody : Anti-mouse IgG, HRP-linked whole Ab Sheep manufactured by Cytiva, #NA931, X 10,000 dilution  
 Detector for chemiluminescence : LAS-3000 Super mode

## Reference data 2: Quantitative analysis

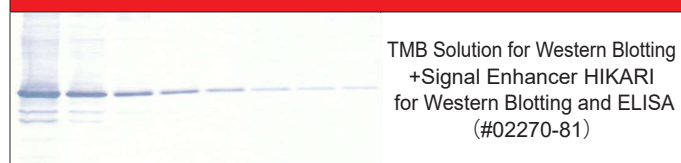


Linear in range of 1.37 ng to 178 ng for GST-His protein.

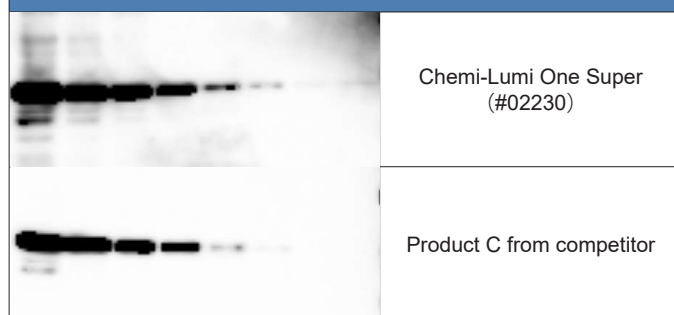
Sample : GST-His protein, 1.5 times dilution series started from 600 ng  
 Primary antibody : Anti-GST (mouse IgG<sub>a</sub>-k) Monoclonal(GS019) manufactured by Nacalai, #04435, X 2,000 dilution  
 Secondary antibody : Anti-mouse IgG, HRP-linked whole Ab Sheep manufactured by Cytiva, #NA931, X 10,000 dilution  
 Detection : TMB Solution for Western Blotting; 5 minutes incubation time  
 Analysis : Determination of band density with ImageJ software by Seiko Epson

## Application 2: Mid-femtogram-level sensitivity achieved with TMB Solution for Western Blotting along with Signal Enhancer HIKARI

**TMB Solution for Western Blotting; incubation time, 10 minutes**



**Chemiluminescence kits / exposure time, 10 minutes**



Sample : HeLa cell extraction, 2 times dilution started from 3 ug  
 Primary antibody : Anti-GAPDH manufactured by Novous, #NB300-322, X 5,000 dilution  
 Secondary antibody : Anti-rabbit IgG, HRP-linked whole Ab Donkey manufactured by Cytiva, #NA934, X 10,000 dilution  
 Detector for chemiluminescence : LAS-3000 Super mode

## Ordering information

Product Name	Grade	Catalog Number	PKG Size
TMB Solution for Western Blotting	SP	18186-24	200 mL

For research use only, not intended for diagnostic or drug use.



### NACALAI TESQUE, INC.

Nijo Karasuma, Nakagyo-ku,  
 Kyoto 604-0855 JAPAN  
 TEL : +81-(0)75-251-1730  
 FAX : +81-(0)75-251-1763  
 Website : www.nacalai.com  
 E-mail : info.intl@nacalai.com