

# MemCode™ Reversible Protein Stain Kit

24580

1438.1

Number	Description
24580	<b>MemCode™ Reversible Protein Stain Kit for Nitrocellulose Membranes</b> , sufficient material for 10 (8 cm x 8 cm) nitrocellulose membranes

**Kit Contents:****MemCode™ Reversible Protein Stain (Component A)**, 250 ml**MemCode™ Destain (Component B)**, 2 x 500 ml**MemCode™ Stain Eraser (Component C)**, 250 ml**Storage:** Store kit at room temperature.

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## Introduction

MemCode™ Reversible Protein Stain is a sensitive method for staining proteins on nitrocellulose membranes to confirm the efficiency of protein transfer. The staining method is simple, quick and results in turquoise-blue bands that do not fade and are easily photographed for future reference. The stain can be easily reversed in less than 15 minutes. Subsequent Western blot detection is unaffected because the stain is completely removed and does not alter the protein.

Other protein staining systems available for nitrocellulose membranes, such as Coomassie® Brilliant Blue and Ponceau S have disadvantages. Ponceau S is less sensitive than other available stains and results in red bands that easily fade and are difficult to photograph. Coomassie® Blue Dye is a sensitive stain, but it permanently binds to proteins and can interfere with Western blotting.

MemCode™ Reversible Protein Stain uses a stain that has a high affinity for protein but does not permanently bind. Furthermore, the dye has minimal nonspecific interactions with nitrocellulose and reagents used for protein transfer. This kit provides an easy, reliable and sensitive method to confirm protein presence on nitrocellulose membranes before proceeding to the Western blot analysis.

## Additional Materials Required

- Ultrapure water
- Nitrocellulose membrane containing transferred proteins
- **Note:** This product is not suitable for PVDF membranes.
- Rotary platform shaker for membrane agitation during incubations

## Procedure for Reversible Staining of Proteins on Nitrocellulose Membranes

**Important Note:** For all steps, use sufficient volumes to completely immerse the membrane and agitate at a moderate speed.

### Stain

1. Rinse the nitrocellulose membrane containing the transferred proteins by adding ultrapure water to the membrane tray and quickly decanting.
2. Add ~25 ml of the MemCode™ Reversible Protein Stain (Component A) to the nitrocellulose membrane. Agitate at room temperature for 30 seconds on a rotary platform shaker. Stained proteins appear as turquoise-blue bands.

### Destain (remove background)

3. Add ~25 ml of MemCode™ Destain Reagent (Component B) to the membrane and quickly decant the solution. Repeat this step two additional times.
4. Add ~25 ml of the Destain Reagent to the membrane and agitate for 5 minutes on a rotary platform shaker.
5. Rinse the membrane four times by adding ultrapure water to the tray and quickly decanting.
6. Wash the membrane with ultrapure water for 5 minutes on a rotary platform shaker with agitation.

### Erase the stain (remove stain from bands)

7. Add 30 ml MemCode™ Stain Eraser (Component C) to the membrane and agitate for 2 minutes on a rotary platform shaker.

**Note:** Two minutes of agitation with Stain Eraser is optimal for most proteins but it may be extended to 5 minutes.

8. Rinse the membrane four times by adding ultrapure water to the tray and quickly decanting.
9. Wash membrane with ultrapure water for 5 minutes on a rotary platform shaker with agitation.

## Troubleshooting

Problem	Cause	Solution
Bands faint or not visible	Low amounts or no protein present in the sample	Determine the protein concentration in the original sample
Stain is not completely reversed	Membrane was allowed to dry before reversing	Keep the membrane wet
	High protein concentration in the sample	Extend incubation in the Stain Eraser up to 5 minutes
		Reduce the protein concentration in the sample

## Related Pierce Products

<b>88013</b>	<b>Nitrocellulose Membrane, 0.2 µm, 7.9 x 10.5 cm, 15 sheets/pkg</b>
<b>34075</b>	<b>SuperSignal® West Dura Extended Duration Substrate*, 100 ml</b>
<b>34080</b>	<b>SuperSignal® West Pico chemiluminescent Substrate*, 500 ml</b>
<b>24597</b>	<b>GelCode® Color Silver Stain Kit</b>
<b>24602</b>	<b>GelCode® SilverSNAP® Silver Stain Kit</b>
<b>24590</b>	<b>GelCode® Blue Stain Reagent, 500 ml</b>

\*SuperSignal® Technology is protected by U.S. Patent # 6,432,662.

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