

## Protein Silver Stain Kit

### Protein Silver Staining Kit

Item No. P665901 (20 preps)

Storage conditions: room temperature

#### Product content

individual parts making up a compound	P665901 20 preps
Silver Stain Sensitizer (500 x)	2 x 1 ml
Silver Stain Enhancer	3 ml
Silver Stain	2×250 ml
Silver Stain Developer	4×125 ml

#### Product Introduction

This kit adopts high sensitivity silver dye, which can be used for protein staining of denaturing gel and non-denaturing gel, with the advantages of clear bands, low background and flexible control of operation time. In addition, a short sensitization step is added in this kit, which can significantly reduce the background and enhance the brightness of the target bands.

#### Caveat

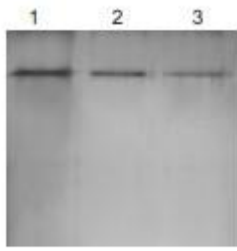
1. Please prepare 50 ml of fixative (ultrapure water: ethanol: glacial acetic acid = 6:3:1), 50 ml of eluent (10% ethanol) and 50 ml of termination solution (5% glacial acetic acid) in advance.
2. Please use deionized water and clean glass or plastic utensils, and wear disposable gloves for operation.
3. The entire silver dyeing process is carried out on a shaker with a speed of about 60 rpm.
4. Provide your own ethanol and glacial acetic acid.

## Instructions for use

The amount of each solution used in the following procedure is based on a gel of 8.5 x 5.5 cm and 1.0 mm thickness, and the amount of solution used is 25 ml for a large gel that is fully submerged in the solution and placed on a shaking table. Prepare 50 ml of fixative (ultrapure water: ethanol: glacial acetic acid = 6:3:1), 50 ml of eluent (10% ethanol), and 50 ml of stop solution (5% glacial acetic acid) in advance.

1. Water washing: After electrophoresis is completed, wash the gel with ultrapure water for 2 times, each time for 5 minutes.
2. Fixation: Fix the gel with 25 ml fixative for 2 times, 15 minutes each time.
3. Elution: Wash the gel with elution solution 2 times, each time washing for 5 minutes.
4. Washing: Wash the gel with ultrapure water for 2 times, each time for 5 minutes.
5. Sensitization: Place the washed gel from the previous step in the Silver Stain Sensitizer working solution and incubate accurately for 1 minute at room temperature, then wash the gel with ultrapure water for 3 times, each time for 20 seconds.  
Preparation of Silver Stain Sensitizer: Take 50  $\mu$ l of Silver Stain Sensitizer (500  $\times$ ) and add it to 25 ml of ultrapure water, mix well.
6. Silver Stain: Discard the ultrapure water and incubate the gel in the Silver Stain working solution for 30 minutes. Preparation of silver staining solution: Take 25 ml of Silver Stain and add 50  $\mu$ l of Silver Stain Enhancer and mix well.
7. Water washing: use ultrapure water to wash the gel 2 times quickly, each washing is controlled accurately for 20 seconds.
8. Develop: Immediately submerge the washed gel in the developer and incubate at room temperature for 2-3 minutes until the protein bands are clear. Preparation of Developer: Take 25ml of Silver Stain Developer and add 30 $\mu$ l of Silver Stain Enhancer and mix well. Note: If the protein bands start to appear within 30 seconds of development, continue to develop until 2-3 minutes have elapsed. If the protein bands appear lighter, extend the development time to 5 minutes or more.
9. Termination: After washing away the developer from the gel with a termination solution, the gel is immersed in a new termination solution for 10 minutes.

## Experimental Pictures



Silver staining results of BSA protein samples after 10% SDS-PAGE gel electrophoresis

The molecular weight of the BSA protein is approximately 66 kD, and the sample sizes are 50 ng, 10 ng, and 5 ng from left to right.