COSMO BIO CO., LTD.
Inspiration for Life Science

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Catalog No. PMC-AK02-COS

Stains All Gel Staining Kit for Acidic Proteins

Introduction

Acidic Proteins that regulate bone calcification such as Osteocalcin, Osteopontin and BSP Ⅱ, are major components of bones and teeth.These acidic proteins are difficult to detect by conventional staining methods of SDS-PAGE gels.

The Stains All Gel Staining Kit (Cat.No.AK02) is specifically designed to stain strongly acidic proteins.The color of the protein band varies depending on the Protein's isoelectric point and chemical modifications like glycosylation and phosphorylation

Components

Component	Quantity	Storage
Staining Stock Solution (×10)	40 mL	room temperature
Dilution Buffer	200mL × 2	room temperature

One kit can stain 20 mini slab gels

Additional Materials Required

・25% isopropanol
・Deionized water

Regent preparation

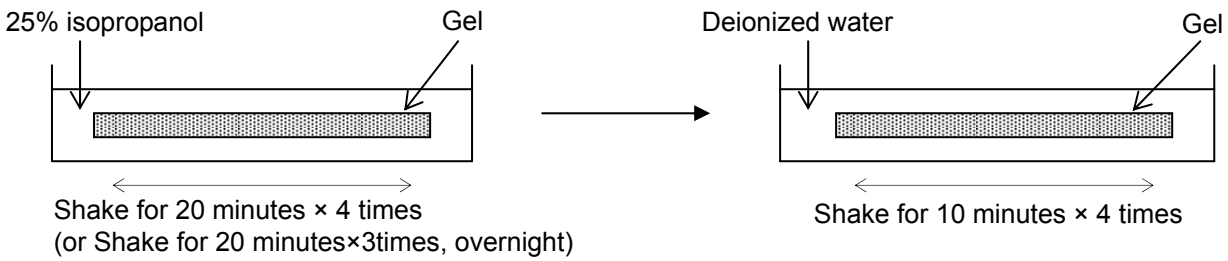
Staining Solution (Prepare immediately prior to use)

Dilute 2 ml of Stain Stock with 18 ml of Dilution Buffer. (Protect the Stain solution from light)

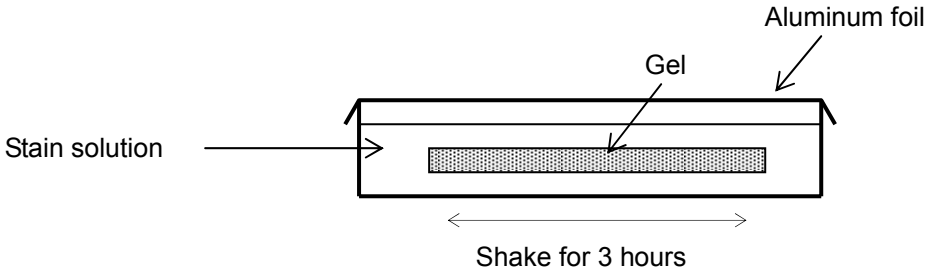
Protocol

Step to stain 1 mini slab gel

1. Wash the SDS-PAGE gel in 20~30 ml of 25% isopropanol. Shake for 20 minutes.
2. Decant the isopropanol and repeat step1 (×3 times or more) to completely remove SDS. Overnight washing is recommended for final step, because any remaining SDS in the gel will react with the stain solution and interfere with protein staining.
3. Decant 25% isopropanopl and wash gel in deionized water for 10 minutes with shaking.
4. Replace the water and repeat step 3 for 3 times.

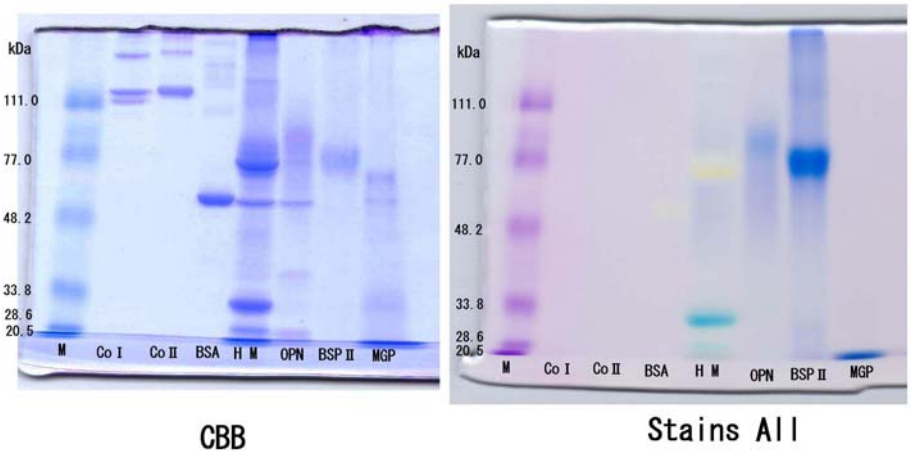


5. Decant water and add 20 ml of prepared Stain Solution.
6. Cover dish with aluminum foil to protect from light. Shake for 3 hours.



7. Decant Stain Solution and wash the gel in deionized water at least 2 times.
8. The red color in the background will fade if the gel is left under natural light for approximately 10 minutes. The protein bands of various staining intensities and colors will become more visible.

Example



M: Molecular-weight marker
Co I : Type I Collagen
Co II : Type II Collagen
BSA : Bovine serum albmin
HM: Human milk total protein
OPN: Osteopontin from human milk
BSP II : Bovine bone sialoprotein
MGP: Bovine matrix glaprotein

References

(1) Nagao, Y., Imai, Y., Matsui, J., Ogawa, T., Miyashita, T. Proton Transport Properties of Poly(aspartic acid) with Different Average Molecular Weights.J.Chem.Thermodynamics.43, 613-616 (2011)
(2) Namikawa, Kazuhiko., Sato, Yumi., Maruo, T., Sunaga, F., Sakaguchi, K., Suzuki, J. A Study of an Erythrocyte Membrane Protein that Contributes to Inhibition of Agglutination of Feline Erythrocytes in Glucose Solution.J.Electrophoresis. 54, 9-12 (2010)

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