Rapid Coomassie Protein SDS-gel Staining

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[Abstract] This is a fast gel-staining protocol (within 10 min) compared to the conventional coomassie staining with the same detecting sensitivity.

Materials and Reagents

1. Ethanol
2. Acetic acid
3. Coomassie brilliant blue R250
4. Solution I (see Recipes)
5. Solution II (see Recipes)
6. Coomassie stock solution (see Recipes)

Equipment

1. Microwave
2. Rocker

Procedure

1. Transfer gel to 50 ml of Solution I.
2. Heat in microwave oven for ~25 sec.
3. Cool in rocker for 5 to 10 min.
4. Add 200 µl of Coomassie stock solution to 50 ml of Solution II.
5. Transfer gel to Solution II + Coomassie.
6. Heat in microwave oven for ~35 sec.
7. Cool in rocker for 5 to 10 min.
8. Observe bands on the gel.
   Note: Staining is not complete after these 5 to 10 min and faint bands may take longer to become visible.

Recipes

1. Solution I
   50% ethanol
   10% acetic acid
2. Solution II
   5% ethanol
   7.5% acetic acid
3. Coomassie stock solution
   0.25% Coomassie brilliant blue R250 in 95% ethanol

References

1. Studier, F. W. (2005). Protein production by auto-induction in high density shaking cultures. *Protein Expr Purif* 41(1): 207-234.