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# VISUALIZING PROTEINS ON PAGE GEL WITH COOMASSIE COLLOIDAL STAIN - CHEM 584

Ken Christensen<sup>1</sup><sup>1</sup>Brigham Young University

In Development

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Brigham Young University

## ABSTRACT

Staining polyacrylamide gels using a colloidal Coomassie Blue stain. Adapted from a JoVE article.

## THIS PROTOCOL ACCOMPANIES THE FOLLOWING PUBLICATION

<http://www.jove.com/video/1431/fast-sensitive-colloidal-coomassie-g-250-staining-for-proteins>

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- 1 Wash gel with ~50 mL ddH<sub>2</sub>O 3x for ~ 00:10:00 for each wash on a shaker  
*NOTE: insufficient washing causes poor sensitivity because the remaining SDS on the gels disturbs the bounding of the dye to the protein*
- 2 Shake the colloidal Coomassie solution before use to disperse particles evenly.
- 3 Incubate the gels with the Coomassie solution by agitation on a shaker up to 12:00:00 . This staining generates

marginal background so you can observe the staining progress.

*Note: after 10 minutes you should see some protein bands appearing, within 2 hours of incubation about 80% maximum staining is completed. For nearly maximum sensitivity, an overnight incubation is recommended. In some cases, when the amount of protein to be stained is large, the solution turns a bright blue color. If this happens, you should refresh the staining solution as necessary.*

- 4 After staining, remove the Coomassie solution and rinse the gels twice with ddH<sub>2</sub>O.

*Note: you can reuse the staining solution as long as particles still remain, otherwise discard it appropriately.*

- 5 Remove any dye particles from the staining dish with a lint-free paper towel and destain for up to 🕒01:00:00 in ddH<sub>2</sub>O or a Coomassie destain solution (10% (v/v) 96% ethanol, 2% (v/v) orthophosphoric acid 85% in ddH<sub>2</sub>O.)
- 6 Finally rinse the gels twice with ddH<sub>2</sub>O: the gels will reach their original thickness (the alcohol-acid media makes the gels shrink). Neutralization in water also enhances the Coomassie stain's color intensity.
- 7 You can record your gel using the gel documentation system or scan it on the Licor using the 680/700 nm channel.