

## Coomassie Blue R-250 (SureStain)

Catalogue #: MP001  
Storage: RT  
Packing Size: 500mL

### **Brief Description:**

The Coomassie dyes (R-250 and G-250) bind to proteins through ionic interactions between dye sulfonic acid groups and positive protein amine groups as well as through Van der Waals attractions. Coomassie R-250, the more commonly used of the two, can detect as little as 0.1 ug of protein. Though less sensitive, Coomassie G-250 can be used in place of the R-250 form to create a rapid and convenient staining procedure. This capability of G-250 is due to its particular properties. Coomassie G-250 manifests a leuco form below pH 2. Solutions of the dye, dark blue black at pH 7, turn a clear tan upon acidification. The leuco form recovers its blue color upon binding to protein, apparently due to the more neutral pH of the environment around the protein molecule. Under proper conditions, a gel placed in an acidified solution of Coomassie G-250 will manifest blue protein bands on a light amber background. The bands develop rapidly and there is no need to destain, for the background color is so light as to be essentially clear. This stain is less sensitive than Coomassie R-250 protocols, detecting 0.5 µg of most proteins. The loss in sensitivity is offset by the speed and convenience of the protocol, which saves up to 11 hours versus the most sensitive R-250 procedures.

**Sensitivity:** >100 ng/band

### **Experimental Procedures:**

- Gel may be prefixed in 50% MeOH, 10% HoAC, 40% H<sub>2</sub>O for 30 minutes to overnight.
- Stain gel in the above solution, with 0.25% Coomassie Blue R-250, for 2 - 4 hours, until the gel is a uniform blue color. Staining is complete when the gel is no longer visible in the dye solution. Prior to complete staining, the gel will appear as a lighter area against the dark staining solution.
- Destain for 4 - 24 hours in 5% MeOH, 7.5% HoAC, 87.5% H<sub>2</sub>O. Bands will begin to appear in 1 - 2 hours. Destain until background is clear.
- This method will detect as little as 0.1µg/band.
- Store gels in 7% HoAC.

### **References:**

Bradford MM. A rapid and sensitive method for the quantitation of microgram quantities of protein utilizing the principle of protein-dye binding. Anal Biochem. 1976 May 7; 72: 248-54.

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