

Q: What is MagicBlue™?

A: MagicBlue™ is a proprietary formulation of coomassie blue G-250 stain solution. Its unique formula works its magic with heat to speed up the process of protein staining with high detection sensitivity.

Q: What is the sensitivity of MagicBlue™?

A: MagicBlue™ works best for detection of proteins 15 k Da and above. Its detection sensitivity varies from protein to protein depending on their composition. In general, MagicBlue™ detects as low as 25 ng of BSA in native and SDS-PAGE within 10 minutes using the standard procedure. It is possible to increase the sensitivity of MagicBlue™ detection to as low as 10 ng of BSA. To achieve this, repeat the water treatment step two more times (to a total of 4 treatments), increase the MagicBlue™ staining step from 2 to 4 minutes, and repeat the post staining wash with heating one more time..

Q: How does the detection sensitivity of MagicBlue™ compared to traditional coomassie blue staining method and silver staining method?

A: MagicBlue™ is based on colloidal coomassie blue staining technology so it is more sensitive than the traditional coomassie blue staining method. Silver staining provides higher detection sensitivity for some proteins than MagicBlue™. However, silver staining is more difficult to work with and its high detection sensitivity is not universally applicable to all proteins.

Q: How does the water treatment work?

A: Boiling of the gel in water prior to the MagicBlue™ step removes substances that can inhibit the interaction between MagicBlue™ and proteins in the gel.

Q: What is the effect of boiling on polyacrylamide gel?

A: Boiling does not destroy the polyacrylamide gel. The only beneficial effect of boiling on the polyacrylamide gel is it fixes the gel so it will not expand in water.

Q: Why proteins detected by MagicBlue™ show a lighter shade of blue compared to the color seen when using the traditional coomassie blue staining method?

A: The unique formulation of MagicBlue™ yields a lighter blue-colored stained protein than that produced by the traditional coomassie blue staining method. This does not decrease the sensitivity of protein detection.

Q: Can MagicBlue™ be reused?

A: Yes, but we don't recommend it unless one is working with abundant amount of proteins. Detection sensitivity decreases 50% when MagicBlue™ is used the second time. Therefore, unless there is a high concentration of protein in the gel, we do not recommend using MagicBlue™ a second time.

Q: Can proteins be transferred to a membrane from a gel after they have been stained by MagicBlue™?

A: No for most proteins. Once proteins are stained by MagicBlue™, they can not be transferred. It is misleading to see blue bands on a membrane if one attempts to transfer MagicBlue™ stained proteins from gel. The transferred blue bands are coomassie blue dyes. Since protein detection by MagicBlue™ is so rapid, we recommend running two identical gels simultaneously. Leave one gel in the electrophoresis apparatus, stain the second gel with MagicBlue™ and obtain the results within 10 minutes. Based on the results of the stained gel, the user then can decide whether to transfer the unstained gel to a membrane.

Q: Can I remove the light-blue background produced by MagicBlue™ completely?

A: MagicBlue™ leaves a light-blue background, which does not affect the sensitivity of detection on the gel. To completely remove the light-blue background, one can repeat the post staining wash step with heating several times, leave the gel in 500 ml of water and change the water hourly, or simply leave the gel in water overnight.

Q: Can I treat the MagicBlue™ stained gel with gel drying reagents containing glycerol and ethanol?

A: Yes.

NOTE: We recommend washing the gels twice (10 minutes each) with water and then processing the gel with gel drying reagents.

Q: Can I dispose MagicBlue™ in the sink?

A: Yes. The unique formulations of MagicBlue are free of hazardous chemicals such as methanol, acetic acid, hydrochloric acid, perchloric acid, and phosphoric acid. It is safe to dispose of them in the sink.

Q: Can I sequence proteins stained by MagicBlue™ using mass spec?

A: Yes. Excise the protein of interested from the stained gel. Wash the excised gel 3 times with water (one hour each) or leave it in water overnight. Then proceed to the sequencing procedure.