SNAP Blue stain

#GSBS 02 **2.5 liter**

(Sufficient reagents are supplied to stain 50 mini-gels)

Part A	**850ml X 2**
Part B	**850ml X 1**

Storage:

The SNAP Blue Staining Kit is shipped at room temperature. Upon receipt, store the kit at room temperature, 15°C to 27°C. The kit is stable for six months when stored properly.

Introduction:

Polyacrylamide gel electrophoresis (PAGE) is a commonly used technique for analysis of proteins because of its low cost, ease of use, and high sensitivity. Following one-dimensional or two-dimensional electrophoresis of protein mixtures on a gel, the proteins are typically visualized by some form of protein staining. By far the most common protein staining solutions utilize the Coomassie® Brilliant Blue R or Coomassie Brilliant Blue G dyes. Coomassie Brilliant Blue R stains can usually detect a 50-ng protein band after prolonged staining and destaining processes. Detection limits by Commassie staining are determined by time required by protein bands to develop compared to the background (i.e., signal-to-noise). It is possible to improve detection sensitivities by increasing the rate of band development, decreasing the rate of background development or both. Keeping this in mind colloidal properties of Coomassie Blue dyes were used to prepare a staining solution that allows detection of proteins at the nanogram levels with water clear backgrounds. This staining procedure is quite convenient, relatively nonhazardous and environment friendly. It is excellent for a fast and analytical in-gel detection of proteins even for proteomics-based approaches.

Features:

1. Minimal background staining.
2. Staining results are fast visible in most cases; less than 15 minutes after sensitization.
3. Staining procedure is very reproducible.

Staining Containers:

- Use clean, round containers for staining.
- Diameter of the container should be sufficient to permit gel coverage with 50 mL of solution for one mini gel.

Procedure:

The basic protocol is optimized for standard 1 mm thick, 8 cm × 8 cm SDS-PAGE Tris-Glycine minigels. Larger or thicker gels require additional volumes of reagents and/or longer incubation times. SNAP GEL staining can be easily used for non-denaturing gels also.

1. After electrophoresis, place the gel into a clean **specified container** (tested with Borosil glass container) with 50 mL of freshly prepared *Sensitizing* solution (40% Methanol, 7.5% acetic acid, 0.2% Tween-20, 28.6mM beta Mercaptoethanol) for 10 mins at room temperature. Discard the solution after 10 mins.

Note: 50 ml sensitizing solution should be used for one or two mini gel in same container. A mild 15 second pulse in microwave in this step has been found to be much effective for staining purposes.

2. Repeat the previous step with freshly prepared sensitizing solution for another 10 mins. Discard the solution and wash with fresh water.

3. Prepare the working SNAP blue stain using supplied stock (Part A and Part B) according to the following table in separate container.

Solution	50 ML	100 ML
Part A	10ml	20ml
Part B	5ml	10ml
Milli Q	25ml	50ml
Methanol	10ml	20ml

Note: During stain preparation add methanol at last slowly with constant shaking.

4. Shake gel in 50 ml SNAP Blue staining solution for a minimum of 3 hours and a maximum of 12 hours.

Note: First protein band will start to appear within 10-15 mins of staining (up to 100ng of protein). After 30 mins, 50 ng of protein can be visualized against clear background. To see very low amount of protein (~5-10 ng) a prolonged incubation in staining solution is recommended.

5. Replace the staining solution with a minimum of 200 mL of deionized water per gel. Depending upon time of prolonged incubation a light blue color background may appear. This background can be removed through washing with deionized water. A overnight incubation left in deionized water after staining found to be more effective (specifically for 2D Gel)

6. For long-term storage keep the gel in a 20% ammonium sulfate solution at 4°C.

Note: Shake the container before use. After use close the lid of the container properly.