

## Dual Color Protein Sample Loading Buffer (5X, Odorless)

**Cat. No.** DPS-01/DPS-10  
**Storage instruction** Store at -20°C. Protected from light.

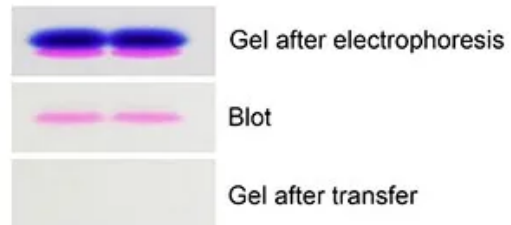
### Introduction

This is a modified and safer, odorless, 5X concentrated protein sample loading buffer using blue and red dyes.

- **Enhanced Safety and Health:** This product uses an odorless and more water-soluble stable reducing agent with similar reducing power, replacing the pungent dithiothreitol (DTT) or 2-Mercaptoethanol. This ensures that the SDS-PAGE protein sample loading buffer remains odorless during normal use or heating, making the protein loading process safer and healthier.
- **Consistent Performance:** Besides being odorless and using different dyes, this product performs identically to conventional protein sample loading buffers. It can be used for routine SDS-PAGE protein sample loading. No significant differences have been observed in performance compared to traditional SDS-PAGE protein sample loading buffers.
- **Dye Migration Rates:** When used for routine SDS-PAGE electrophoresis, the migration rate of the blue dye in this product is consistent with bromophenol blue. The migration rate of the red dye is similar to that of the blue dye. In the Tris-Gly electrophoresis system, when the gel concentration is below 15%, the red dye migrates slightly faster than the blue dye; when the gel concentration is above 15%, the red dye migrates slightly slower than the blue dye.
- **Lane Tracking for Membrane Transfer:** This dual color SDS-PAGE protein sample loading buffer (5X, Odorless) contains a special red dye that can be transferred along with the protein onto PVDF or NC membranes, providing lane position indicators that facilitate membrane cutting and other operations.

### Product Features

- Safe, healthy, and odorless.
- Protects proteins from degradation during SDS-PAGE electrophoresis.
- Two dyes (blue and pink) can be used to: track the electrophoresis process and monitor protein transfer in Western blotting.



### Product Information

Name	Catalog	Size	Storage
Dual Color Protein Sample Loading Buffer (5X, Odorless)	DPS-01	1mL	Store at -20°C. Protected from light. Shelf life is 1 year.

### Usage Instructions

1. Dissolve the Dual Color SDS-PAGE Protein Sample Loading Buffer (5X, Odorless) at room temperature or in a water bath not exceeding 37°C. After dissolving in the water bath, store immediately at room temperature and avoid prolonged exposure to the water bath. After use, store at -20°C.
2. Mix the protein sample and Dual Color SDS-PAGE Protein Sample Loading Buffer (5X, Odorless) in a ratio of 1 µL of loading buffer to 4 µL of protein sample.
  - **Note:** The product can also be diluted to 1X and directly used for lysing cell or tissue samples.
3. Heat at 100°C or in a boiling water bath for 3-5 minutes to fully denature the proteins.
  - **Attention:** If the initial cell or tissue amount is large and the genomic DNA content is high, the solution may still be viscous or contain semi-transparent viscous substances after boiling for 3-5 minutes. In this case, continue boiling for an additional 5-10 minutes or add an appropriate amount of 1X diluted Dual Color SDS-PAGE Protein Sample Loading Buffer and boil for another 3-5 minutes. Prolonged boiling helps to fully release proteins bound to genomic DNA and partially break down genomic DNA, reducing viscosity and thus not affecting subsequent sample loading operations. Appropriate sonication or repeated aspiration using a 1 ml syringe can also break down genomic DNA to reduce viscosity.
4. After cooling to room temperature, load the sample directly into the wells of the SDS-PAGE gel.
5. Typically, electrophoresis is halted when the red or blue dye reaches the bottom of the gel.



### Important Reminders

1. When denaturing proteins with this product, it is recommended to heat at 95°C in a water bath or PCR machine for 5 minutes. Excessive temperature (e.g., 100°C) or prolonged time (e.g., over 15 minutes) may cause protein degradation or abnormal coloration of the indicator in the loading buffer.
2. This product does not contain toxic 2-Mercaptoethanol or the pungent-smelling DTT, but has the same reducing effect, providing consistent results for protein sample treatment and electrophoresis.
3. Upon removal from frozen storage, precipitation of SDS may occur. It is recommended to dissolve completely by warming in a water bath before use.
4. For your safety and health, please wear a lab coat and disposable gloves during operation.
5. This product is for scientific research use only by professionals. It is not for clinical diagnosis or treatment, nor for use in food or pharmaceuticals.