2X DNA/RNA Denaturing Loading Buffer

Product description

2X DNA/RNA Denaturing Loading Buffer is a 2X concentrated loading buffer for DNA/RNA gel electrophoresis. It contains SDS, EDTA, bromophenol blue, xylene cyanol, and deionized formamide. This buffer is suitable for routine double-stranded DNA and total RNA electrophoresis, as well as single-stranded DNA, DNA primers, small RNA, or purified specific RNA electrophoresis. It works for both denaturing agarose gel electrophoresis and polyacrylamide gel (PAGE) electrophoresis. When mixed with samples to a 1X working concentration, its high specific gravity ensures easy sinking into wells, while the distinct blue color serves as a loading and electrophoresis indicator.

Composition and storage conditions

Components \ Size	2 mL	10 mL	Storage
2X DNA/RNA Denaturing Loading Buffer	2 mL	10 mL	-20°C

Shipping: Blue Ice **Shelf life:** 2 years

Experimental operation

1. Mix 2X DNA/RNA Denaturing Loading Buffer with DNA/RNA sample at a 1:1 volume ratio. For example, add 10 µL 2X buffer to 10 µL sample to obtain 20 µL 1X working solution.

2. Gently mix by pipetting or vortexing to ensure full homogenization.

***Note:** Avoid excessive force during mixing to prevent sample damage or structural disruption.

3. Sample denaturation:

1) RNA denaturation: Heat the mixed RNA sample at 70°C for 5–10 min or 95°C for 1 min. Immediately transfer to an ice-water bath for rapid cooling to maintain denaturation and prevent secondary structure reformation.

***Note:** Heating unfolds RNA secondary structures for linear separation by molecular weight. Do not overheat to avoid RNA degradation.

2) DNA denaturation: Heat the mixed DNA sample at 95°C for 5 min for complete denaturation. Immediately transfer to an ice-water bath for rapid cooling to prevent reannealing.

***Note:** High temperature dissociates double-stranded DNA into single strands for size-based separation.

4. Carefully load the cooled sample into gel wells and perform electrophoresis.

Notes

1. Strictly prevent RNase contamination during handling. Wear a mask when pipetting to avoid RNase from saliva/respiration; minimize air exposure; tightly cap the bottle immediately after use.
2. Avoid repeated freeze-thaw cycles to maintain performance and stability.
3. Aliquot appropriately upon first use to reduce contamination risk and preserve remaining product integrity.
4. Formamide is toxic. Wear gloves, goggles, and protective gear; avoid skin/eye contact to prevent poisoning.
5. This product is for research use only.

APExBIO Technology
www.apexbt.com
7505 Fannin street, Suite 410, Houston, TX 77054.
Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: info@apexbt.com