

5x Loading Buffer Red



Cat. No.: 733-2574

Cat. No.	Product	ID No.	Cap colour	Volume
733-2574	5x Loading Buffer Red	5400100	Red	5 x 1 ml

Store at -20 °C

Features

- Suitable for agarose and SDS DNA gels
- Suitable for TAE, TBE, SB and LB electrophoresis buffers
- 5x ready-to-use formulation
- Ficoll-based for convenient storage at room temperature

General Description

DNA loading buffers are used to load DNA samples to agarose or SDS DNA gels for gel electrophoresis.

DNA loading buffers serve three main purposes:

Firstly, loading buffers add density to the DNA samples, so the DNA sinks down into the well instead of floating up and mixing with the running buffer. To achieve this, high density reagents like glycerol, sucrose or Ficoll are added.

Secondly, loading buffers add visibility to the DNA sample. Loading buffers contain a coloured tracking dye to allow control of proper DNA sample loading.

And thirdly, loading buffers provide one or more tracking dyes to monitor the progress of DNA migration on the gel (figure 1). Commonly used tracking dyes are Cresol Red, Bromophenol Blue, and Orange G, each migrating at a characteristic size.

VWR offers 3 different loading buffers to allow the customer to choose the optimal system for a specific task. The loading buffers are formulated as a 5x solution containing Ficoll, Tris-buffer, EDTA and either Cresol Red, Bromophenol Blue or Orange G as tracking dye. For a 10 µl loading volume, add 2 µl 5x Loading Dye to 8 µl of your DNA sample, mix well and load on a gel.

Kit Components

5x Loading Buffer Red

15 % Ficoll 400, 10 mM Tris-HCl pH 8.0, 50 mM EDTA, 0.05 % Cresol Red.

Storage Conditions

Loading buffers containing Ficoll can be stored at room temperature for some weeks. For long term storage, keep the loading buffer at -20 °C.

Quality control

Each lot of loading buffer is functionally tested on an agarose gel.

How to choose the right loading buffer

Tracking dyes

The choice of the tracking dye is dependent on the size of the DNA fragments one wants to run. In general, the front of the tracking dye should not run at the size of the DNA fragments because especially dark dyes obscure the DNA bands.

It is best to choose a tracking dye that runs in front of the DNA fragments to analyze.

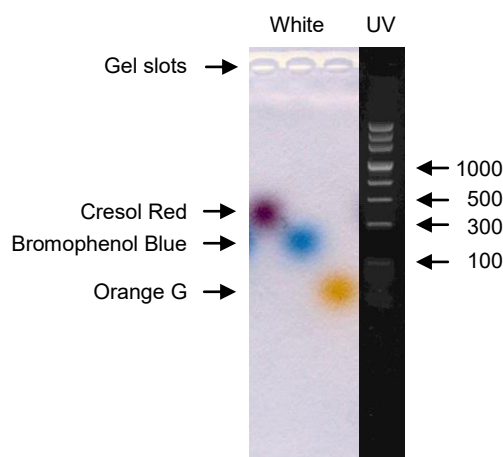


Figure 1: The three VWR Loading Buffers were run on a 1 % agarose gel along with a DNA marker. The gel was pictured on white light and UV light and the dyes were correlated to the marker.

Table 1: Position of dye front of some tracking dyes on a 1 % agarose gel:

Dye:	Front at*:	Color:
Cresol Red	1000 – 2000 bp	Red
Bromophenol Blue	300 – 500 bp	Blue
Orange G	50 – 150 bp	Orange

* The position of the dyes is dependent on the type of agarose, the percentage of the gel and the buffer used.

Related Products

Description	Cat. No.
VWR Taq DNA Polymerase	
VWR Glycerol Free Taq DNA Polymerase (1000 units) with 10x Key Buffer with 10x Extra Buffer	733-1817
VWR Taq DNA Polymerase (500 units) with 10x Key Buffer with 10x Extra Buffer	733-1301
VWR Taq DNA Polymerase (500 units) with 10x Extra Buffer (Mg ²⁺ -free and Triton-free)	733-1304
VWR Taq DNA Polymerase (1000 units) with 10x Key Buffer (Tween-free) with 10x Extra Buffer (Triton-free)	733-1307
VWR Taq DNA Polymerase (500 units) with 10x Key Buffer (Mg ²⁺ -free)	733-1311
VWR Red Taq DNA Polymerase (2500 units) with 10x Key Buffer with 10x Extra Buffer	733-1323
VWR Taq DNA Polymerase Master Mix*	
VWR Taq DNA Pol. 1.1x Master Mix, 1.5 mM MgCl ₂ final conc. (2500 reactions)	733-1314
VWR Taq DNA Pol. 2x Master Mix, 1.5 mM MgCl ₂ final conc. (2500 reactions)	733-1316
VWR Red Taq DNA Pol. 1.1x Master Mix, 1.5 mM MgCl ₂ final conc. (2500 reactions)	733-1318
VWR Red Taq DNA Pol. 2x Master Mix, 1.5 mM MgCl ₂ final conc. (2500 reactions)	733-1320
VWR TEMPase Hot Start DNA Polymerase	
VWR TEMPase Hot Start DNA Polymerase (500 units) with 10x Key Buffer with 10x Combination Buffer	733-1331
VWR Glycerol Free TEMPase DNA Polymerase (500 units) with 10x Key Buffer	733-2555
VWR TEMPase Hot Start Master Mix**	
VWR TEMPase Hot Start 2x Master Mix K, 1.5 mM MgCl ₂ final conc. (2500 reactions)	733-2582
VWR Blue TEMPase Hot Start 2x Master Mix K, 1.5 mM MgCl ₂ final conc. (2500 reactions)	733-2585
VWR Multiplex Master Mix	
VWR Multiplex 2x Master Mix, (2500 reactions)	733-2569
VWR High Fidelity DNA Polymerase	
VWR AccuPOL DNA Polymerase (250 units) with 10x Key Buffer	733-1324
VWR AccuPOL DNA Polymerase (250 units) with 10x Key Buffer (Mg ²⁺ free and Tween free)	733-1328
VWR PCR accessories	
Betaine Enhancer Solution 5 M, 5 ml (500 reactions)	733-1361
dNTP Mix, 40 mM (10 mM of each dATP, dCTP, dGTP & dTTP) (40 µmol, 2x 500 µl)	733-1363
dNTP Set, 100 mM of each dATP, dCTP, dGTP & dTTP (4x 25 µmol, 4x 250 µl)	733-1364
VWR PCR grade water (6 x 5 ml)	733-2573
VWR Loading Buffer Red (5 x 1 ml) – available in 4 different colors	733-2574

*Also available with 2 mM MgCl₂

**Also available as 2x Master Mix C based on Combination Buffer

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