

## 5x DNA Loading Buffer Red

MADE IN DENMARK

Cat. No.: A608104



A608104

-	DNA Loading Buffer Red
ID No.	5400100
Cap colour	Red
Content	5 x 1 ml

### Features and 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, they 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 xylene cyanol FF, cresol red, bromophenol blue, and orange G, each migrating at a characteristic size (table 1).

Ampliqon offers 4 different loading buffers to allow the customer to choose the optimal system for a specific task. The loading buffers are formulated as a 5x solutions containing Ficoll, Tris-buffer, EDTA and either Xylene cyanol FF, 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.

### Recommended Storage and Stability

Long term storage at -20 °C. Product expiry at -20 °C is stated on the label.

Option: Store at +4 °C for up to 6 months.

### Quality Control

Each lot of Loading Buffer is functionally tested on an agarose gel.

### Kit Components

#### 5x Loading Buffer Red

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

### How to choose the right loading buffer

#### Tracking dyes

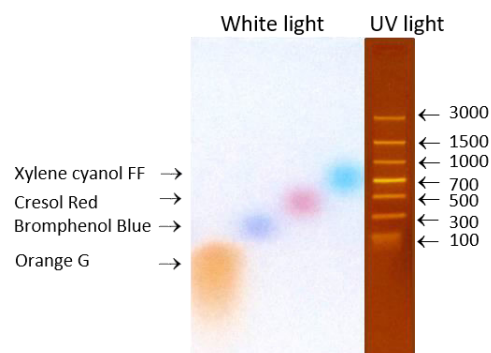
The choice of the tracking dye is dependent on the size of the DNA fragments one wants to run. In general, the front of the tracking dye should not run at the size of the DNA fragments because especially dark dyes obscure the DNA bands.

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

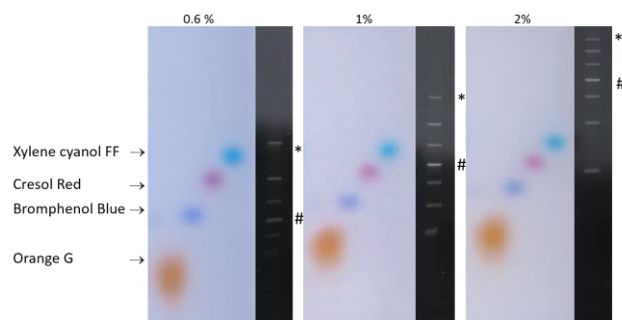
**Table 1:** Position of dye front of some tracking dyes on a 1 % agarose gel:

Dye:	Front at*:	Color:
Xylene cyanol FF	800 – 1000 bp	Cyan
Cresol red	500 – 800 bp	Red
Bromphenol 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.



**Figure 1:** The four Ampliqon 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.



**Figure 2:** Dependency of gel % on dye front position. The four Ampliqon Loading Buffers were run for 75 minutes on either 0.6 %, 1 % or 2 % 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. \* = 3000 bp and # = 700 bp.

## Related Products

Loading Buffers	Cat. No.
5x Loading Buffer Red, 5 x 1 ml	A608104
5x Loading Buffer Blue, 5 x 1 ml	A608204
5x Loading Buffer Orange, 5 x 1 ml	A608304
5x Loading Buffer Cyan, 5 x 1 ml	A608404

Ultrapure dNTPs*	Cat. No.
dNTP Mix 40 mM (2 x 500 µl): 10 mM each dA, dC, dG, dT	A502004
dNTP Set, 100 mM each: 250 µl of each dA, dC, dG and dT	A511104

\*Other concentrations and Single dNTPs are available.

DNA Ladders	Cat. No.
PCR DNA Ladder **, 100 – 3000 bp, 1 x 0.5 ml	A610341

. \*\* Available in different size ranges.

PCR Grade Water	Cat. No.
6 x 5 ml	A360056

AQ90 High Fidelity DNA Polymerase 2 U/µl*	Cat. No.
With 10x AQ90 Buffer – 500 U	A457403

\* Available in different size ranges.

Taq Polymerase (500 units) *	Cat. No.
Taq DNA Polymerase 5 U/µl	A110003
• with 10x Ammonium Buffer	A111103

Hot Start Polymerase (500 units) *	Cat. No.
TEMPase Hot Start DNA Polymerase, 5 U/µl	A220003
• with 10x Ammonium Buffer	A221103

\*Available in kits including one or two buffers (Ammonium Buffer, Standard Buffer or Combination Buffer). Available in different size ranges.

AQ90 High Fidelity DNA Polymerase 2x Master Mix*	Cat. No.
100 reactions	A470701

\* Available in different size ranges.

Taq Master Mixes (500 x 50 µl reactions) *	Cat. No.
2x Master Mix, 1.5 mM MgCl <sub>2</sub> final concentration	A140303
2x Master Mix RED, 1.5 mM MgCl <sub>2</sub> final concentration	A180303

TEMPase Hot Start Master Mixes (500 x 50 µl reactions) *	Cat. No.
2x Master Mix A**, 1.5 mM MgCl <sub>2</sub> final concentration	A230303
2x Master Mix A**BLUE, 1.5 mM MgCl <sub>2</sub> final concentration	A290403

\*Master mixes available also in 1.1x variants as well as 2 mM MgCl<sub>2</sub> variants, \*\*Mix A is Ammonium Buffer based, also available as Mix C based on Combination Buffer. Available in different size ranges

Real-time PCR Master Mixes (400 x 25 µl reactions)	Cat. No.
RealQ Plus 2x Master Mix for probe,	
• without ROX <sup>TM</sup>	A313402
• with low ROX <sup>TM</sup>	A314402
• with high ROX <sup>TM</sup>	A315402
RealQ Plus 2x Master Mix Green	
• without ROX <sup>TM</sup>	A323402
• with low ROX <sup>TM</sup>	A324402
• with high ROX <sup>TM</sup>	A325402

For Research Use Only. Not for use in diagnostics procedures.

Other product sizes, combinations and customized solutions are available. Please look at [www.ampliqon.com](http://www.ampliqon.com) or ask for our complete product list for PCR Enzymes. For customized solutions please contact us.

Made in Denmark

Issued 08/2021