AMPLIQON
PCR ENZYMES & REAGENTS

Ampliqon A/S
www.ampliqon.com
info@ampliqon.com

Stenhuggervej 22
5230 Odense M
Denmark

Phone: +45 70201169
VAT No.: DK 26388899

5x DNA Loading Buffer Red

MADE IN **DENMARK**

Cat. No.	DNA Loading Buffer Red ID: 5400100
A608104	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 four 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

The 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.

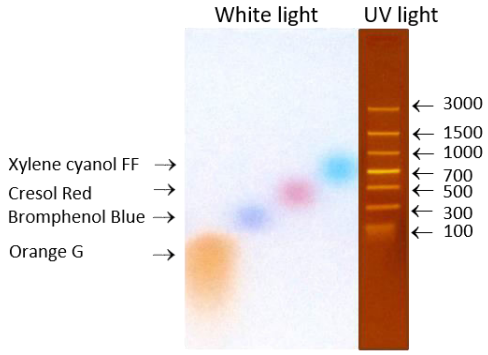

Figure 1: The four Ampliqon Loading Buffers were run on a 1 % agarose gel along with a DNA marker. The gel was pictured on white light and UV light and the dyes were correlated to the marker.

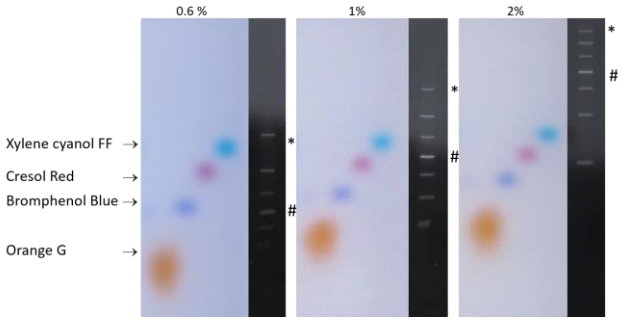

Figure 2: Dependency of gel % on dye front position. The four Ampliqon Loading Buffers were run for 75 minutes on either 0.6 %, 1 % or 2 % agarose gel along with a DNA marker. The gel was pictured on white light and UV light and the dyes were correlated to the marker. *=3000 bp and # = 700 bp.

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

Made in Denmark

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