Innaxon
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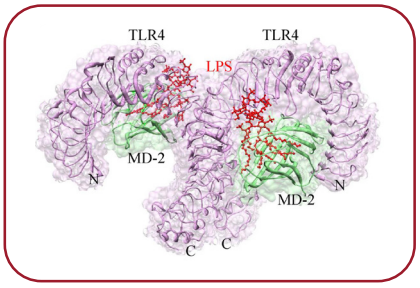

PRODUCT DATA SHEET

DNA Loading Buffer with TRIS and EDTA (6x) (Blue)

Cat. No.: IAX-900-008 **Lot. No.:**

Formulation	1.5ml (LD15) Bromophenol Blue (0.5%), Xylene Cyanol FF (0.5%), Glycerol (40%), EDTA (Ethylenediaminetetraacetic acid) (40mM) and TRIS-HCl [Tris(hydroxymethyl)aminomethane hydrochloride] pH 7.5-8.0 (10mM) in sterile filtered double-distilled water (ddWater), without any additives
Handling	Spin vial briefly before opening, exercise care when dispensing DNA Loading Buffer with TRIS and EDTA (6x) (Blue) due to the intense staining of the contained tracking dyes. Ready-to-use, sterile solution.
Shipping	Ambient
Storage	2-8°C. Avoid freeze/thaw cycles.
Stability	When prepared into aliquots, the product is stable for at least 24 months when stored between -15 and -25°C. Once the vial is opened, the product remains stable for an additional 12 months at 2-8°C.
MSDS	Available on request

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Applications

- Coloured loading for easy recognition
- No need to add dye
- Reproducible results
- Used for monitoring migration rates during agarose electrophoresis and loading samples onto DNA agarose gels.

Protocol

- Add one part of Gel Loading Buffer to 5 parts of the DNA sample as shown in the table below.
- Spin down the tubes and vortex gently to achieve homogeneity.

DNA sample	5 µl	10 µl	20 µl	50 µl
6x Gel Loading Buffer	1 µl	2 µl	4 µl	10 µl

General Information

- A DNA sample (e.g. 50 µl is mixed with 6x DNA loading dye (e.g. 10µl) prior to loading into the wells of agarose gel.
- The DNA Loading Buffer with TRIS and EDTA (6x) (Blue) contains bromophenol blue and xylene cyanol FF as tracking dyes, which are not fluorescent, which might otherwise interfere with DNA UV detection.
  Tracking dye helps to track the progression of gel electrophoresis and sample loading process in the well. Bromophenol blue ($C_{19}H_{10}Br_4O_5S$; Molar mass – 669.96 g/mol) is a weak acid with a light pink to purple colourr. The colour of the aqueous solution of bromophenol blue is pH-dependent. Bromophenol blue solution appears yellow at pH 3.0, purple at pH 4.6, and blue at neutral pH. Xylene cyanol FF ($C_{25}H_{27}N_2NaO_6S_2$; Molar mass – 538.61 gram/mol) is dark green in colour.
- Both tracking dyes, bromophenol blue and Xylene cyanol FF, are soluble in water and carry net negative charge at neutral or slightly basic pH of the electrophoresis buffer. The net negative charge on Xylene cyanol FF is less than bromophenol blue, resulting in bromophenol blue to move faster than xylene cyanol in agarose gel.
- The percentage of agarose in gels affects the moving position of bromophenol blue and xylene cyanol FF in the gel. The bromophenol blue and xylene cyanol FF co-migrates with ~350 bp and ~3500 bp DNA fragments in 1% agarose gel respectively.
- Glycerol provides high density to the solution, so the DNA samples settle at the bottom of the well. It also helps DNA samples to be confined in the well without diffusing out.
- EDTA binds divalent metal ions and inhibits metal dependent nucleases.
- A high concentration of dye provides a very good contrast colour, which is easy to monitor upon electrophoresis progression.
- However, high dye concentration may partially mask the low abundant co-migrating DNA fragments.

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DNA Loading Buffer with TRIS and EDTA (6x) (Blue)

Cat. No.: IAX-900-008 **Lot. No.:**

DNA Loading Buffer with TRIS and EDTA (6x) (Blue):
Loading buffer for agarose or polyacrylamide gels

DNA fragment size	Agarose gel conc.	Xylene cyanol FF	Bromophenol blue
20-400 bp	3.6 %	~ 280 bp	~ 40 bp
50-1000 bp	3.0 %	~ 500 bp	~ 60 bp
100-2000 bp	2.4 %	~ 900 bp	~ 100 bp
200-4000 bp	1.8 %	~ 1800 bp	~ 40 bp
0.5-10 kb	1.0 %	~ 3.5 kb	~ 0.35 kb
1-30 kb	0.6 %	~ 12 kb	~ 1.2 kb

Endotoxin-free and Sterile Buffers and Related Products

IAX-900-001	PBS Endotoxin-free (sterile)
IAX-900-001DC	PBS Endotoxin-free (sterile) [For Nano-formulated Drug Analysis]
IAX-900-002	ddWater Endotoxin-free (sterile)
IAX-900-002DC	ddWater Endotoxin-free (sterile) [For Nano-formulated Drug Analysis]
IAX-900-003	Physiological Saline [Sodium Chloride 0.9% Endotoxin-free] (sterile)
IAX-900-003DC	Physiological Saline [Sodium Chloride 0.9% Endotoxin-free] (sterile) [For Nano-formulated Drug Analysis]
IAX-900-004	PBS with EDTA Endotoxin-free (sterile)
IAX-900-005	TRIS with EDTA [TE Buffer] (100x) Endotoxin-free (sterile)
IAX-900-006	EDTA (400mM) Endotoxin-free (sterile)
IAX-900-007	HEPES Buffer (500mM) Endotoxin-free (sterile)
IAX-900-008	DNA Loading Buffer with TRIS and EDTA (6x) (Blue)
IAX-900-009	HEPES Buffer (50mM) with NaCl [Sodium Chloride] (150mM) Endotoxin-free (sterile)
IAX-900-010	NaCl [Sodium Chloride] (1.5M) Endotoxin-free (sterile)
IAX-900-011	TRIS Buffer (1.5M) Endotoxin-free (sterile)
IAX-900-012	TRIS Buffer (30mM) with NaCl [Sodium Chloride] (150mM) Endotoxin-free (sterile)
IAX-900-013	PBS with Magnesium and Calcium Endotoxin-free (sterile)
IAX-900-014	ddWater with 0.9% Benzyl Alcohol [Bacteriostatic Water] Endotoxin-free (sterile)