



Product Specifications

DNA Molecular Weight Markers, Electrophoresis Reagents
Polymerase Chain Reaction Reagents
Custom Primers and Probes
Hybridization and Detection Reagents

DNA & RNA Gel Loading Buffers

	Catalog No.	Product	Size
<input type="checkbox"/>	40-5027-10	Gel Loading Buffer 2X BPB/XC Denaturing for Sequencing	1 mL
<input type="checkbox"/>	40-5027-15	Gel Loading Buffer 2X BPB/XC Denaturing for Sequencing	15 mL

Storage

Store at room temperature or at +4°C up to 12 months.
For longer periods, store at -20°C.

Product Description & Application

Gel Loading Buffer 2X BPB/XC denaturing for sequencing is a formulation that contains bromophenol blue (BPB) and xylene cyanol (XC) in formamide. This is specifically used for DNA sequencing sample tracking dyes in denaturing polyacrylamide gels. The gel loading buffer contains EDTA that binds divalent metal ions, inhibits metal dependent enzymatic reactions and protects DNA from metal dependent nucleases, effectively inactivating enzymes and protecting DNA from nucleases.

The migration of the tracking dyes differs in different percentage gels. See table below for approximate co-migration of dyes with DNA base pair sizes.

Suitable for use in nucleic acid gel electrophoresis.

DNase, RNase: None detected

Application

Gel Loading Buffer 2X BPB/XC denaturing

Add 1 volume of the Gel Loading Solution to 1 volume of sample, mix well, heat to 95°C for 2 minutes, chill on ice, spin and load to gel.

Composition 2X

95% Formamide

20 mM EDTA pH 8.0

0.025% Xylene Cyanol

0.025% Bromophenol blue

Migration Rates of the Marker Dyes in Agarose Gels			
Agarose concentration, %	Xylene cyanol FF	Bromophenol blue	Orange G
0.7-1.7	~ 4000bp	~ 300bp	~ 50bp
2.5-3.0	~ 800bp	~ 100bp	~ 30bp

* The approximate sizes of DNA fragments with which the indicated marker dye co-migrates.

Recommended Gel Percentages for Separation of Linear DNA *			
Agarose gel, %	Range of separation, bp	Polyacrylamide gel, %	Range of separation, bp
0.5	1,000-30,000	3.5	100-1,000
0.7	800-12,000	5.0	80-500
1.0	500-10,000	8.0	60-400
1.2	400-7,000	12.0	40-200
1.4	200-4,000	20.0	5-100
2.0	50-2,000		

* Approximate electrophoretic resolution of DNA fragments sizes.

Migration Rates of the Marker Dyes in Denaturing Polyacrylamide Gels *		
Polyacrylamide gel, %	Bromophenol blue*	Xylene cyanol FF*
5.0	35 bases	130 bases
6.0	29 bases	106 bases
8.0	26 bases	76 bases
10.0	12 bases	55 bases
20.0	8 bases	28 bases

* The approximate sizes of DNA fragments with which the indicated marker dye co-migrates in 7M urea polyacrylamide gels.

Reference

Sambrook, J., et al., Molecular Cloning: A Laboratory Manual, Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y., 12.89, 5.42, 2001

Ordering Information

Loading Buffers		
Product	Catalog No.	Size
Gel Loading Buffer 5X BPB/XC non-denaturing	40-3002-10	1 mL
Gel Loading Buffer 5X BPB/XC non-denaturing	40-3002-15	15 mL
Gel Loading Buffer 10X BPB/XC non-denaturing	40-3003-10	1 mL
Gel Loading Buffer 10X BPB/XC non-denaturing	40-3003-15	15 mL
Gel Loading Buffer 5X Orange G/XC non-denaturing	40-3004-10	1 mL
Gel Loading Buffer 5X Orange G/XC non-denaturing	40-3004-15	15 mL
Gel Loading Buffer 2X BPB/XC Denaturing for Sequencing	40-5027-10	1 mL
Gel Loading Buffer 2X BPB/XC Denaturing for Sequencing	40-5027-15	15 mL
DNA SDS Gel Loading Buffer 5X BPB/XC DNA binding protein denaturing buffer	40-5028-10	1 mL
DNA SDS Gel Loading Buffer 5X BPB/XC DNA binding protein denaturing buffer	40-5028-15	15 mL
RNA Gel Loading Buffer 2X BPB/XC with ethidium bromide	40-5029-10	1 mL
RNA Gel Loading Buffer 2X BPB/XC with ethidium bromide	40-5029-15	15 mL
RNA Gel Loading Buffer 2X BPB/XC without ethidium bromide	40-5030-10	1 mL
RNA Gel Loading Buffer 2X BPB/XC without ethidium bromide	40-5030-15	15 mL

Related Products Ordering Information

Buffers & Reagents		
Product	Catalog No.	Size
Agarose LE Molecular Biology Grade; 100 gms	40-3010-10	100 gms
Agarose LE Molecular Biology Grade; 500 gms	40-3010-50	500 gms
Agarose LE Molecular Biology Grade; 1 Kg	40-3010-01	1 Kg
TAE Buffer; 50 X Concentrate	40-3007-01	100 mL
TBE Buffer; 5 X Concentrate	40-3008-10	1000 mL
Hybwash A, Hybridization Wash Solution	40-5020-20	200 mL
Hybwash B, Hybridization Wash Solution	40-5021-10	100 mL
10x Washing buffer	40-5025-20	200 mL
10% Blocking solution	40-5026-10	100 mL
10x AP Detection buffer	40-5031-10	100 mL
Lumisol™ I Hybridization Solution; contains formamide	40-5022-20	200 mL
Lumisol™ II Hybridization Solution; for non-toxic hybridizations	40-5023-20	200 mL
Lumisol™ III Hybridization Solution; for oligo probes	40-5024-20	200 mL

Omni-Marker™		
Product	Catalog No.	Size*
Omni-Marker™ Universal unlabeled	40-3005-10	1 mL
Omni-Marker™ Low unlabeled	40-3006-10	1 mL
Omni-Marker™ GScan™-2 Tamra labeled 50 bp - 600 bp	40-3062-05	500 µL

Prices subject to change without notice

All Gene Link products are for research use only