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
❑	40-3004-10	Gel Loading Buffer 5X Orange G/XC non-denaturing	1 ml
❑	40-3004-15	Gel Loading Buffer 5X Orange G/XC non-denaturing	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 5X Orange G/XC are concentrates that contain orange G and xylene cyanol as tracking dyes. This dye is an alternate to bromophenol blue/xylene cyanol dye especially when visualizing DNA fragments in the range of 100 to 400 bp as the absence of bromophenol blue usually electrophoreses in this range. 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. In agarose gels over a range of 0.7% to 1.4% (w/v), xylene cyanol co-migrates with ~4 kb linear double strand DNA and orange G co-migrates with ~50 bp double strand DNA.
Suitable for use in nucleic acid gel electrophoresis.
DNase, RNase: None detected

Application
Gel Loading Buffer 5X Orange G/XC non-denaturing
Add 1 volume of the Gel Loading Solution to 4-5 volumes of sample, mix well and load to gel.

Composition
0.15%(w/v) Orange G
0.03%(w/v) Xylene cyanole FF
10 mN Tris-HCl (pH 7.6)
60 mM EDTA
30% Glycerol
15%(w/v) Ficol in water

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 Polyacrylamide Gels*		
Polyacrylamide gel, %	**Bromophenol blue***	**Xylene cyanol FF***
Non-denaturing gels		
3.5	100 bp	460 bp
5.0	65 bp	260 bp
8.0	50 bp	160 bp
12.0	45 bp	70 bp
15.0	20 bp	60 bp
20.0	12 bp	45 bp
Denaturing gels		
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.		

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**	**Price $**
Gel Loading Buffer 5X BPB/XC non-denaturing	40-3002-10	1 ml	10.00
Gel Loading Buffer 5X BPB/XC non-denaturing	40-3002-15	15 ml	80.00
Gel Loading Buffer 10X BPB/XC non-denaturing	40-3003-10	1 ml	16.00
Gel Loading Buffer 10X BPB/XC non-denaturing	40-3003-15	15 ml	95.00
Gel Loading Buffer 5X Orange G/XC non-denaturing	40-3004-10	1 ml	10.00
Gel Loading Buffer 5X Orange G/XC non-denaturing	40-3004-15	15 ml	80.00
Gel Loading Buffer 2X BPB/XC Denaturing for Sequencing	40-5027-10	1 ml	10.00
Gel Loading Buffer 2X BPB/XC Denaturing for Sequencing	40-5027-15	15 ml	80.00
DNA SDS Gel Loading Buffer 5X BPB/XC DNA binding protein denaturing buffer	40-5028-10	1 ml	10.00
DNA SDS Gel Loading Buffer 5X BPB/XC DNA binding protein denaturing buffer	40-5028-15	15 ml	60.00
RNA Gel Loading Buffer 2X BPB/XC with ethidium bromide	40-5029-10	1 ml	36.00
RNA Gel Loading Buffer 2X BPB/XC with ethidium bromide	40-5029-15	15 ml	82.00
RNA Gel Loading Buffer 2X BPB/XC without ethidium bromide	40-5030-10	1 ml	26.00
RNA Gel Loading Buffer 2X BPB/XC without ethidium bromide	40-5030-15	15 ml	72.00

Related Products Ordering Information

Buffers& Reagents			
Product	**Catalog No.**	**Size**	**Price $**
Agarose LE Molecular Biology Grade; 100 gms	40-3010-10	100 gms	120.00
Agarose LE Molecular Biology Grade; 500 gms	40-3010-50	500 gms	410.00
Agarose Tablets, 0.5 gm each	40-3011-10	100 tablets	100.00
TAE Buffer; 50 X Concentrate	40-3007-01	100 ml	32.00
TBE Buffer; 5 X Concentrate	40-3008-10	1000 ml	35.00
Hybwash A, Hybridization Wash Solution	40-5020-20	200 ml	65.00
Hybwash B, Hybridization Wash Solution	40-5021-10	100 ml	50.00
10x Washing buffer	40-5025-20	200 ml	125.00
10% Blocking solution	40-5026-10	100 ml	75.00
Seq. Loading buffer	40-5027-00	1 ml	10.00
10x AP Detection buffer	40-5031-10	100 ml	65.00
Lumisol™ I Hybridization Solution; contains formamide	40-5022-20	200 ml	75.00
Lumisol™ II Hybridization Solution; for non-toxic hybridizations	40-5023-20	200 ml	75.00
Lumisol™ III Hybridization Solution; for oligo probes	40-5024-20	200 ml	75.00

Omni-Marker™			
Product	**Catalog No.**	**Size***	**Price $**
Omni-Marker™ Universal unlabeled	40-3005-10	1 ml	90.00
Omni- Marker™ Low unlabeled	40-3006-10	1 ml	90.00
Omni-Marker™ GScan-2 Tamra labeled 50 bp - 600 bp	40-3062-05	500 µl	325.00

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