

# Preparation of DNA Ladders/Markers for Electrophoresis

This protocol is for the Preparation of DNA Ladder/Markers for Electrophoresis

Table 1. Recommendations for loading the conventional formulation (supplied in TE buffer) DNA ladders/markers.

Technical specifications	Conventional formulation (supplied in TE buffer) DNA ladders/markers			
	GeneRuler™ DNA ladders	Lambda DNA markers	Phage & Plasmid DNA markers	Markers for Genomic DNA Analysis
Supplied amount / number of applic.	50 µg (100 µl) is sufficient for: <ul style="list-style-type: none"> <li>• 100 applic. on agarose gel</li> <li>• 50 applic. on native PAGE</li> </ul>	50 µg (100 µl) is sufficient for 100 applic. on agarose gel	50 µg (100 µl) is sufficient for: <ul style="list-style-type: none"> <li>• 100 applic. on agarose gel</li> <li>• 50 applic. on native PAGE</li> </ul>	6 µg (30 µl) is sufficient for 120 applic. on agarose gel
Amount used per 1 mm width of a gel lane	0.1 µg (0.2 µl) for agarose gel 0.2 µg (0.4 µl) for PAGE	0.1 µg (0.2 µl) for agarose gel	0.1 µg (0.2 µl) for agarose gel 0.2 µg (0.4 µl) for PAGE	6 ng
Dilution	Not needed	Not needed	Not needed	Mix 1 µl (0.2 µg) of DNA marker with 39 µl of nuclease-free water
Heating	Do not heat	Heat at 65°C for 5 min; chill on ice for 3 min before use	Do not heat	Heat at 65°C for 5 min; chill on ice for 3 min before use
<b>I. Loading on agarose gel:</b>				
DNA ladder/marker loading dye Water, nuclease-free	1 µl (0.5 µg) 2 µl 9 µl	1 µl (0.5 µg) 2 µl 9 µl	1 µl (0.5 µg) 2 µl 9 µl	10 µl (50 ng) of diluted marker 1 µl
Mix gently and load on gel				
<b>II. Loading on polyacrylamide gel:</b>				
DNA ladder/marker loading dye Water, nuclease-free	2 µl (1 µg) 0.5 µl 0.5 µl	Not recommended for PAGE	2 µl (1 µg) 0.5 µl 0.5 µl	Not recommended for PAGE
Mix gently and load on gel				
<b>II. Loading on polyacrylamide gel:</b>				
DNA ladder/marker loading dye Water, nuclease-free	2 µl (1 µg) 0.5 µl 0.5 µl	Not recommended for PAGE	2 µl (1 µg) 0.5 µl 0.5 µl	Not recommended for PAGE
Mix gently and load on gel				

Table 2. Recommendations for loading ready-to-use DNA ladders/markers.

Technical specifications	DNA ladders/markers, ready-to-use						
	GeneRuler™ & O'GeneRuler™ DNA ladders	MassRuler™ DNA ladders	FastRuler™ DNA ladders	O'RangeRuler™ DNA ladders	ZipRuler™ Express DNA ladders	Lambda DNA markers	Phage & Plasmid DNA markers
Supplied volume/number of applic.	500 µl for 100 applic.	2x500 µl for 50-200 applic.	2x500 µl for 50-333 applic.	500 µl for 100 applic.	2x500 µl for 100-200 applic.	500 µl for 100 applic.	500 µl for 100 applic.
Heating	Do not heat					Heat at 65°C for 5 min; chill on ice for 3 min before use	Do not heat
Mix gently and load on gel							
Volume per 1 mm width of a gel lane	1-2 µl	variable	variable	1-2 µl	1-2 µl	1-2 µl	1-2 µl

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