Thermo SCIENTIFIC

PRODUCT INFORMATION

pUC19 DNA/MspI (HpaII) Marker, 23

#SM0221 **50 µg**
(for 100 applications)

Lot: –

Concentration: 0.5 µg/µL
Supplied with: 1 mL 6X DNA Loading Dye

Store at -20°C

In total 2 vials.

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Description

pUC19 DNA was completely digested with MspI, purified and dissolved in a storage buffer.
The DNA Marker contains the following 13 discrete fragments (in base pairs): 501, 489, 404, 331, 242, 190, 147, 111, 110, 67, 34, 34, 26.

Storage Buffer

10 mM Tris-HCl (pH 7.6), 1 mM EDTA.

6X DNA Loading Dye

10 mM Tris-HCl (pH 7.6), 0.03% bromophenol blue, 0.03% xylene cyanol FF, 60% glycerol and 60 mM EDTA.

CERTIFICATE OF ANALYSIS

Well-defined bands are formed during agarose gel electrophoresis.
The DNA concentration is determined spectrophptometrically.
The absence of nucleases is confirmed by a direct nuclease activity assay.

Quality authorized by:  Jurgita Zilinskiene

I. Loading on agarose gel:

– prepare the marker before loading:
  1 µL (0.5 µg) of the marker,
  1 µL of 6X DNA Loading Dye,
  4 µL of deionized water;
– vortex gently just prior to use;
– do not heat before loading;
– apply the prepared amount (6 µL) of the marker on a 5 mm lane of agarose gel;
– following electrophoretic separation on gel, visualize the DNA bands by ethidium bromide staining.

Important Notes

- One vial (50 µg) is sufficient for ~100 applications.
- Use 0.1 µg (0.2 µL) of the marker (before dilution) per 1 mm of an agarose gel lane width.
- For DNA band visualization with SYBR® Green, GelRed and other intercalating dyes, do not add the dyes into the sample, use gel staining after electrophoresis or include dyes into agarose gel to avoid aberrant DNA migration.

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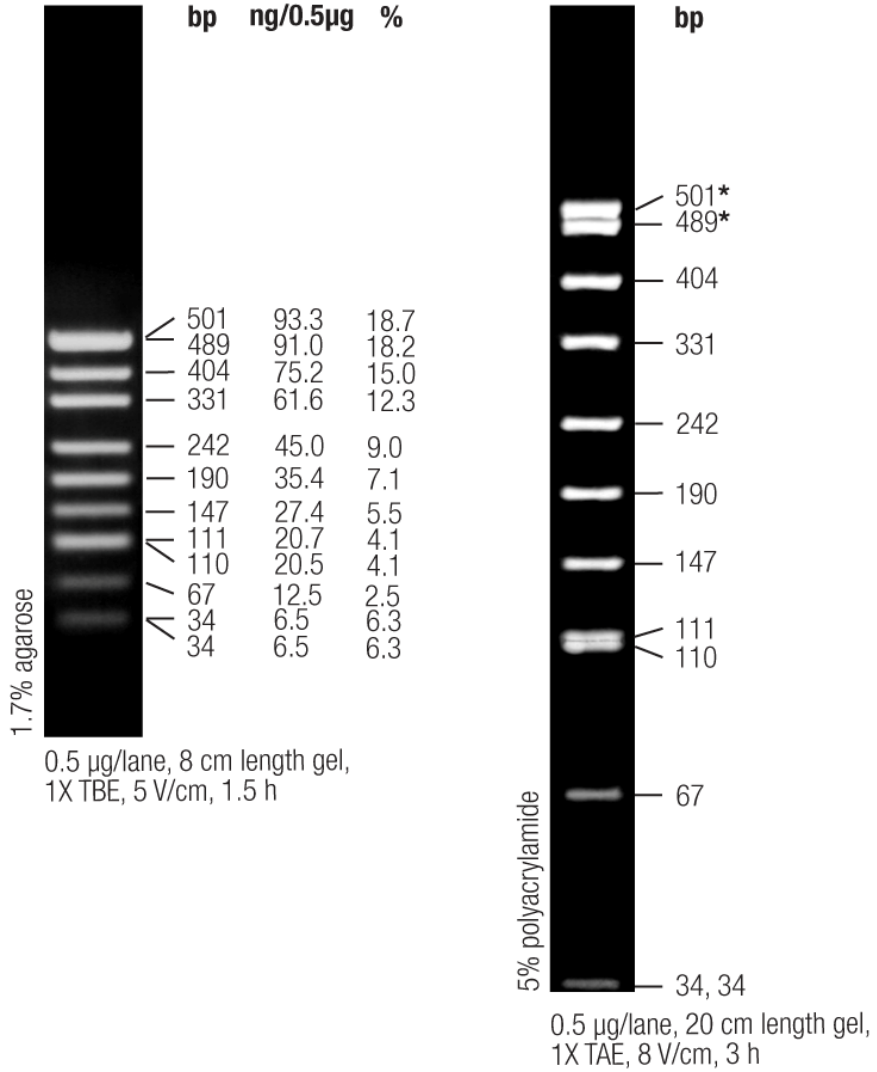

*The 501 and 489 bp bands migrate anomalously (1, 2, 3).
26 bp fragment is not visible and comprises 1.0%

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II. Loading on polyacrylamide gel (1, 2, 3):

– prepare the marker before loading:
  2 µL (1 µg) of the marker,
  0.5 µL of 6X DNA Loading Dye,
  0.5 µL of deionized water;
– vortex gently just prior to use;
– do not heat before loading;
– apply the prepared amount (3 µL) of the marker on a 5 mm lane of polyacrylamide gel;
– following electrophoretic separation on gel, visualize the DNA bands by ethidium bromide staining.

Note

- One vial (50 µg) is sufficient for ~50 applications.
- Use 0.2 µg (0.4 µL) of the marker per 1 mm of a polyacrylamide gel lane width.

References

1. Stellwagen, N.C., Anomalous electrophoresis of deoxyribonucleic acid restriction fragments on polyacrylamide gels, Biochemistry, 22, 6186-6193, 1983.
2. Lane, D., et al., Use of gel ratardation to analyze protein – nucleic acid interactions, Microbiological Reviews, 56, 509-528, 1992.
3. Stellwagen, N.C., Conformational isomers of curved DNA molecules can be observed by polyacrylamide gel electrophoresis, Electrophoresis, 21, 2327-2334, 2000.

PRODUCT USE LIMITATION

This product is developed, designed and sold exclusively *for research purposes and in vitro use only.* The product was not tested for use in diagnostics or for drug development, nor is it suitable for administration to humans or animals. Please refer to www.thermoscientific.com/onebio for Material Safety Data Sheet of the product.