

Agilent Plasmid Topology Kit for Fragment Analyzer Systems

Assessment of plasmid DNA purity and supercoiled plasmid sizing



Plasmid DNA topology is widely recognized as a key critical quality attribute (CQA) in biopharmaceutical and biotherapeutic workflows, where the percentage of supercoiled DNA directly impacts transfection efficiency, expression performance, and IVT mRNA production. The Agilent Plasmid Topology kit for the Agilent 5200 and 5300 Fragment Analyzer systems enables rapid, high-resolution separation and purity assessment of plasmid isoforms, providing confident plasmid isoform characterization to support robust process control and batch-to-batch consistency.

Features and benefits

- Reliable isoform separation: Enables rapid detection of supercoiled, linear, and open circular isoforms from 2,000 to 10,000 bp
- Automated purity assessment: Ensures confident, reproducible purity analysis with minimal post-electrophoresis processing, decreasing time to results
- Streamlined supercoiled sizing: Uses a dedicated ladder to deliver precise isoform sizing, reducing manual effort and minimizing reruns
- Flexible throughput options: Optimized for both the Agilent 5200 and 5300 Fragment Analyzer systems with either the 12- or 48-capillary arrays, enabling scalability from research to process development

Order information

Kit	Part Number
Agilent Plasmid Topology Kit*	5191-6627

*Fragment Analyzer vent valve upgrade kit (p/n M5301A) is required to run this assay

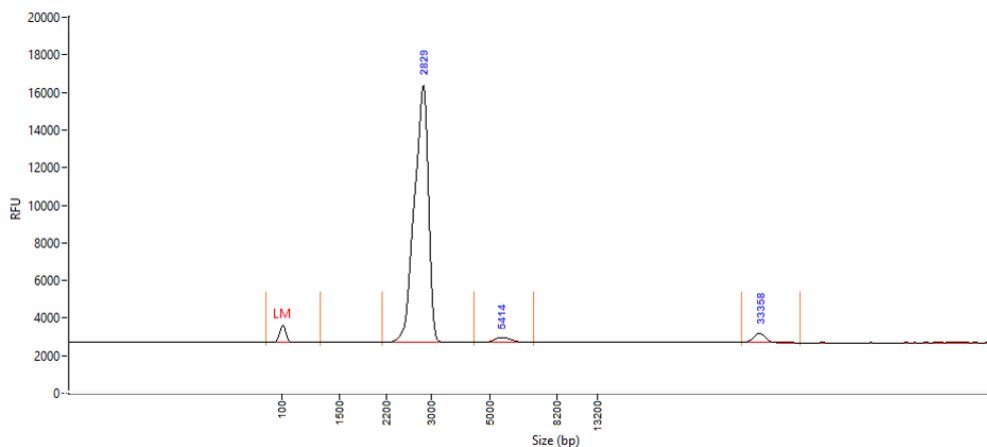


Figure 1. Electropherogram of a pUC19 (2.7 kb) plasmid DNA sample analyzed on the Agilent Fragment Analyzer system using the Agilent Plasmid Topology kit. Fragment order (from left): Lower marker (LM), supercoiled (SC), supercoiled-dimer (SC-D), and open circular (OC) forms.

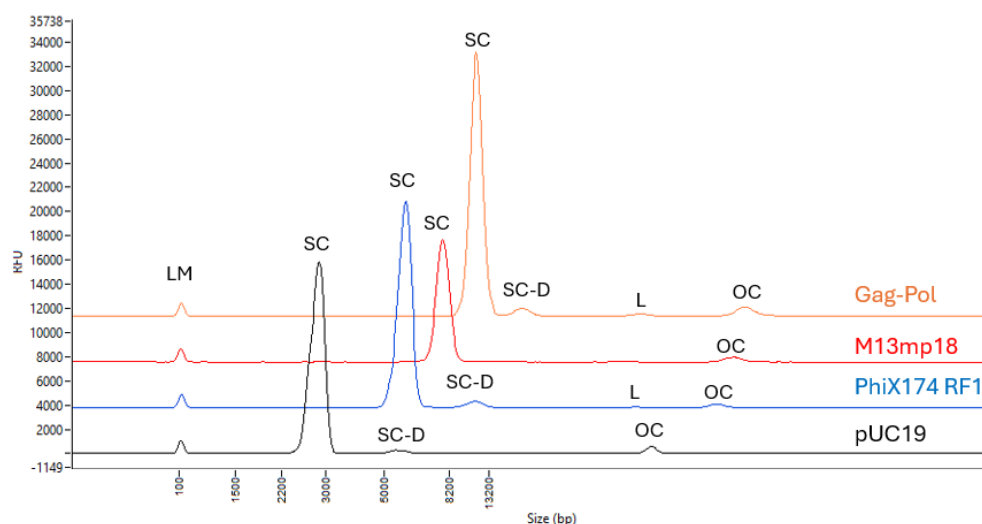


Figure 2. Electropherogram overlay of four different plasmid samples: pUC19 (black, 2.7 kb), PhiX174 RF1 (blue, 5.4 kb), M13mp18 (red, 7.2 kb), and Gag-Pol (orange, 9.7 kb). Fragment order (from left): Lower marker (LM), supercoiled (SC), supercoiled-dimer (SC-D), linear (L), and open circular (OC) forms. Plasmid DNA samples were analyzed on the Agilent Fragment Analyzer system using the Agilent Plasmid Topology kit.

Specifications

	Plasmid Topology Kit
Kit Size	275 samples
Sizing Range	2,000–10,000 bp
Recommended Concentration Range	0.1–1.0 ng/μL final in-well DNA concentration in pDNA Dilution Buffer
Electrophoresis Time	45 min

To learn more about the [Plasmid Topology Kit](#) for the Agilent 5200 and 5300 Fragment Analyzer systems.

For Research Use Only. Not for use in diagnostic procedures.
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