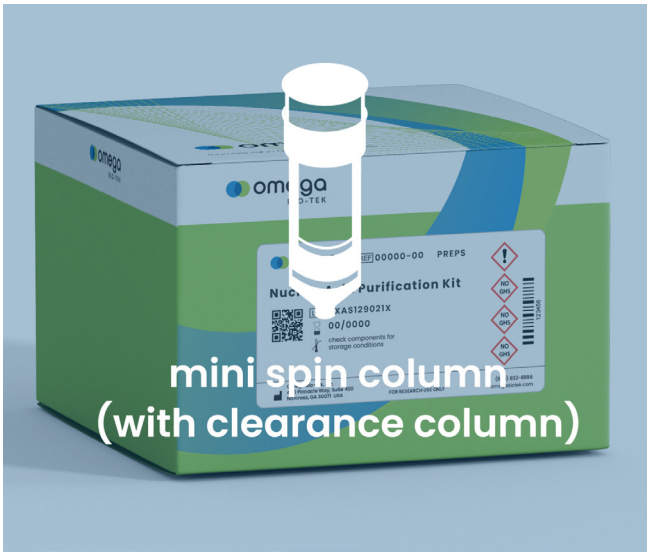
E.Z.N.A.® FastFilter Plasmid DNA Mini Kit



Specifications

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

Starting Amount	up to 5mL (high-copy number plasmid) and 10mL (low-copy number plasmid)
Starting Material	Bacteria harboring high-copy or low-copy plasmid in culture medium
Elution Volume	50 - 100µL
Processing Mode	Manual (Centrifugation or Vacuum)
Throughput	1-24 Samples
Nucleic Acid Binding Technology	Silica Mini Spin Column
Processing Time	9 minutes
Downstream Application(s)	Routine screening, restriction enzyme digestion, transformation, PCR and DNA sequencing
Special Features	First of its kind FastFilter and HiBind® DNA mini column configuration integrating lysate clearance and DNA binding into a single step

Cat. No.	Description	UOM
ES52393-10	E.Z.N.A.® FastFilter Plasmid DNA Mini Kit, 10 preps	Each
ES52393-100	E.Z.N.A.® FastFilter Plasmid DNA Mini Kit, 100 preps	Each
ES52393-300	E.Z.N.A.® FastFilter Plasmid DNA Mini Kit, 300 preps	Each

Overview

The E.Z.N.A.® FastFilter Plasmid DNA Mini Kit is designed for rapid purification of high-quality plasmid DNA starting with bacterial pellet from up to 5 mL of culture following the alkaline-lysis method in just 9 minutes. The kit features an innovative and first of its kind FastFilter mini column nested within a regular HiBind® silica mini spin column to combine lysate clearance and DNA binding into one simple centrifugation step. Following wash and elute steps, purified plasmid DNA is immediately ready for a wide variety of downstream applications such as routine screening, restriction enzyme digestion, transformation, PCR and DNA sequencing.

- Rapid – 9 Minute Processing time from a bacterial pellet
- Unique – Lysate Clearance and DNA Binding in 1 step
- Convenient – Lysate Clearance Column eliminates cellular debris pelleting and transfer step
- Versatile – Process up to 5 mL bacterial cultures with different plasmid types and culture medias

Product Data

FASTER PROCESSING WITHOUT SACRIFICING YIELD AND QUALITY

Condition	Culture Volume (mL)	Manufacturer	Yield (µg)	Average A260/A280	Average A260/A230
Minimum Volume Input	0.6	Company Z	2.18	1.92	2.20
		Omega Bio-tek	2.50	1.89	2.20
	1	Company Q	4.45	1.89	2.26
		Omega Bio-tek	4.29	1.88	2.23
Maximum Volume Input	3	Company Z	8.01	1.85	2.31
	5	Omega Bio-tek	18.11	1.85	2.33
	5	Company Q	20.00	1.86	2.28
		Omega Bio-tek	18.11	1.85	2.20

Table 1. Competitor Analysis of Plasmid DNA Purification. pGEM plasmid was purified DH5α cultures (n = 4) using kits from Omega Bio-tek or Company Z or Company Q following manufacturer's recommended centrifugation protocol. Purified Plasmid DNA was eluted at 100 µL irrespective of the manufacturing kit used and quantified using Thermo Scientific's NanoDrop™ 2000c system.

COMPARISON OF PROCESSING TIME FROM BACTERIAL CULTURE

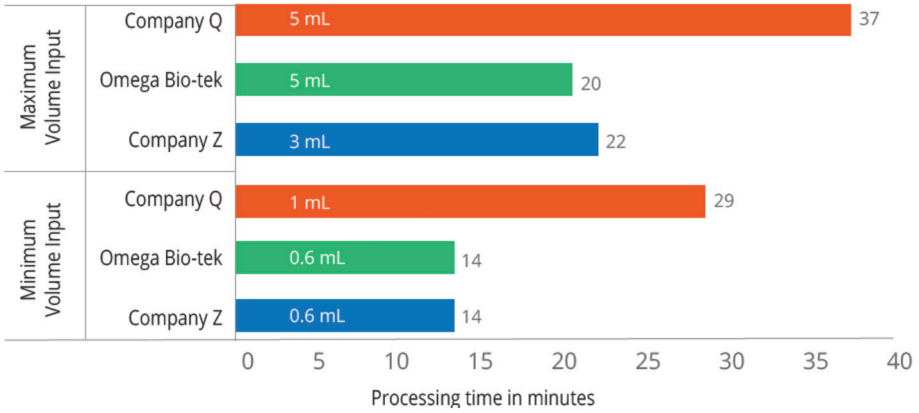


Figure 1. Comparison of Plasmid Purification times (n = 4) using kits from Omega Bio-tek or Company Z or Company Q. The processing time was comparable using kits from Omega Bio-tek and Company Z at minimum culture volume and was lower by 2 min for Omega Bio-tek at maximum volume. The processing times shown are actual timed extractions including all pipetting, centrifugation, and bacterial culture pelleting steps. Omega Bio-tek outperformed Company Q with respect to processing time at both the culture volumes tested.

Table 2. Plasmid DNA purified using the E.Z.N.A. FastFilter Plasmid DNA Mini Kit was used in a 5 µL Sanger sequencing reaction. The sequencing reaction was analyzed on an Applied Biosystems 3730XL. The samples had an average CRL of 994 bp and an average QV20+ of 985 with a quality score greater than 20 (≤ 1% probability of error in base calling).

HIGH-QUALITY PLASMID DNA SUITABLE FOR SEQUENCING REACTIONS

Sample ID	Quality Score	Contiguous Read Length (CRL)	QV20+	Average Intensity
1	45	987	979	2692.5
2	46	993	977	2181
3	46	1002	1001	2650.3

VERSATILITY USING DIFFERENT PLASMID TYPES AND CULTURE MEDIA

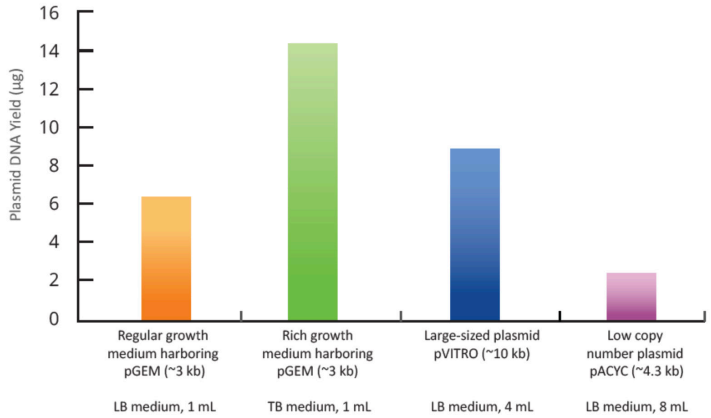


Figure 2. E.Z.N.A.® FastFilter Plasmid DNA Mini Kit is capable of handling diverse sample input conditions ranging from plasmid types, culture medium as well as input culture volume. The plasmid yield may vary based on these conditions.

COMPLETE DIGESTION WITH VARIOUS RESTRICTION ENZYMES

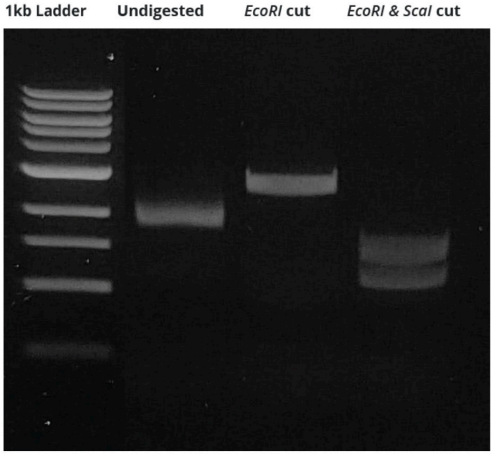


Figure 3. pGEM Plasmid DNA from overnight bacterial cultures was purified using the E.Z.N.A. FastFilter Plasmid DNA Mini Kit and analyzed by restriction digestion. Complete digestion was observed for the various restriction enzymes tested.

HIGH-QUALITY, SUPERCOILED PLASMID DNA

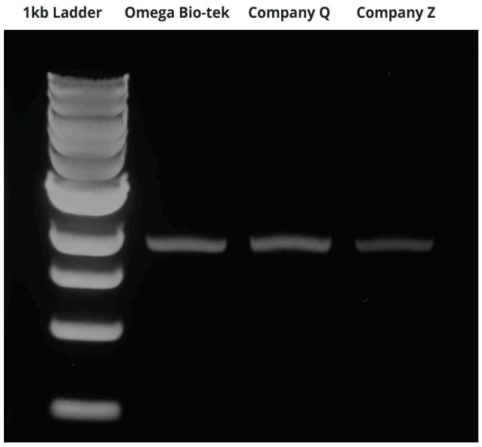


Figure 4. Plasmid DNA Quality Assessment using kits from Omega Bio-tek or Company Q or Company Z. No genomic DNA was present on the agarose gel.