

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

Isolate high-quality plasmid DNA in just 9 minutes using an innovative lysate clearance column



RAPID

9-minute processing time from bacterial pellet



UNIQUE

Lysate clearance and DNA binding in 1 step



CONVENIENT

FastFilter column eliminates cellular debris pelleting and transfer step



VERSATILE

Process up to 5 mL bacterial cultures with different plasmid types and culture media

E.Z.N.A.[®] FastFilter Plasmid DNA Mini Kit is designed for rapid purification of high-quality plasmid DNA 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 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.

FASTER PROCESSING WITHOUT SACRIFICING YIELD AND QUALITY

Table 1. Competitor Analysis of Plasmid DNA Purification. pGEM plasmid was purified from 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.

| 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 |

COMPARISON OF PROCESSING TIME FROM BACTERIAL CULTURE

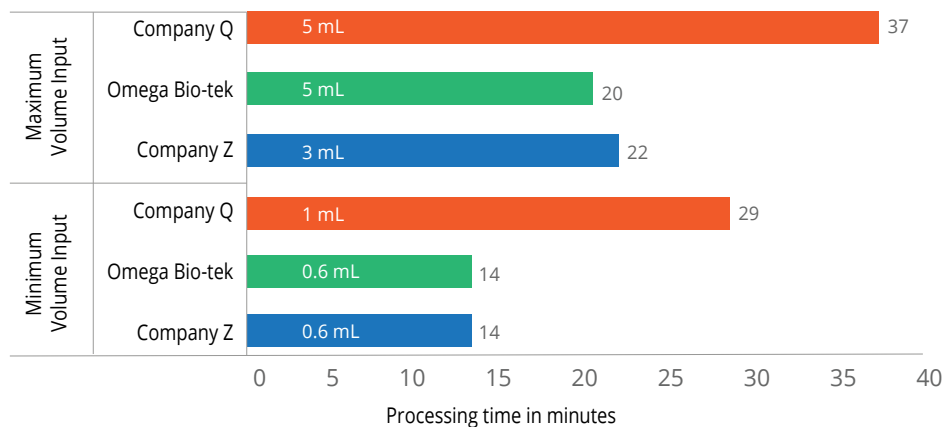


Figure 1. Comparison of Plasmid purification times (n = 4) using kits from Omega Bio-tek or Company Z or Company Q. The processing times shown are actual timed extractions including all pipetting, centrifugation, and bacterial culture pelleting steps. The processing time was comparable using kits from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



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HIGH-QUALITY PLASMID DNA SUITABLE FOR SEQUENCING REACTIONS

Table 2. Plasmid DNA purified using the E.Z.N.A. FastFilter Plasmid DNA Mini Kit was used in a 5 μ L 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 (\leq 1% probability of error in base calling).

| 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

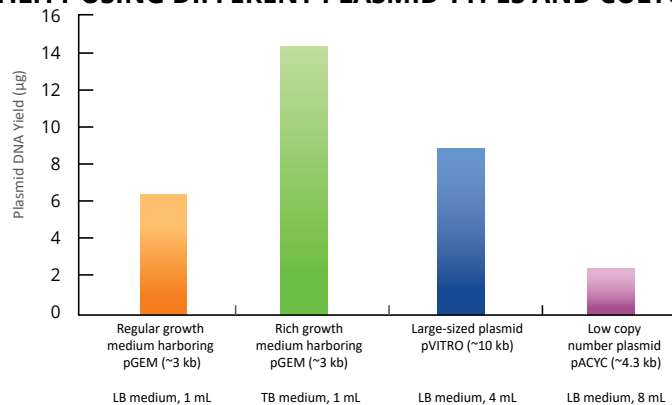


Figure 2. E.Z.N.A.[®] FastFilter Plasmid DNA Mini Kit is capable of handling diverse sample input conditions ranging from plasmid types, culture medium as well as input culture volume. The plasmid yield may vary based on these conditions.

COMPLETE DIGESTION WITH VARIOUS RESTRICTION ENZYMES

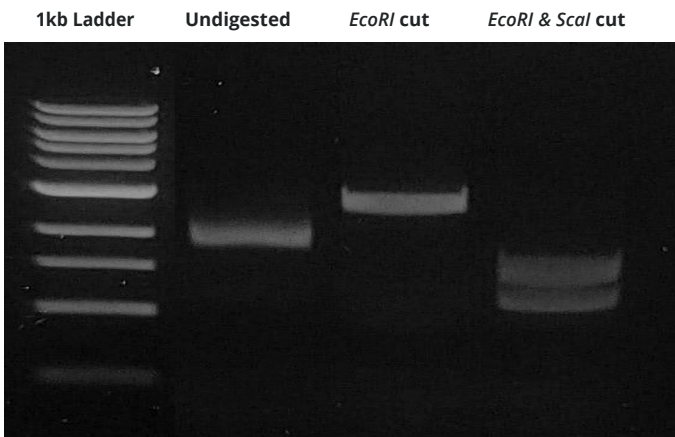


Figure 3. pGEM plasmid DNA from overnight bacterial cultures was purified using the E.Z.N.A. FastFilter Plasmid DNA Mini Kit and analyzed by restriction digestion. Complete digestion was observed for the various restriction enzymes tested.

HIGH-QUALITY, SUPERCOILED PLASMID DNA

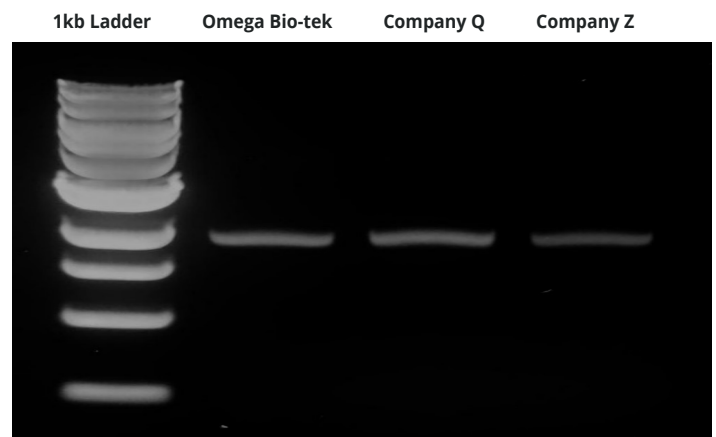


Figure 4. Plasmid DNA Quality Assessment using kits from Omega Bio-tek or Company Q or Company Z. No genomic DNA was present on the agarose gel and plasmid DNA appears supercoiled.

Need a Sample?

Complete the [Sample Form](#) today or ask your Thomas Sales Rep for more information!

| Product Description | Preps | Thomas No. | Cat No. |
|---|-------|------------|----------|
| E.Z.N.A. [®] FastFilter Plasmid DNA Mini Kit | 10 | CHM03V306 | D6944-00 |
| | 100 | CHM03V307 | D6944-01 |
| | 300 | CHM03V308 | D6944-02 |