

Low Copy Plasmid MiniPrep Kit

Norgen's Low Copy Plasmid MiniPrep Kit is designed for the rapid preparation of low copy number plasmid DNA from small batches of *E. coli*. Purification is based on spin column chromatography using Norgen's proprietary resin as the separation matrix. Norgen's resin binds DNA under high salt concentrations and releases the bound DNA under low salt and slightly alkali conditions. The process does not require ethanol or other alcohols, a significant improvement over other techniques to achieve full compatibility with alcohol sensitive applications. The purified DNA is free of genomic DNA, RNA and cellular proteins and is suitable for many downstream applications.



The Low Copy Plasmid MiniPrep Kit contains sufficient materials for 25 preparations. Typical yield from a 3 mL culture is 0.5 - 1 µg. Purification of plasmids up to 14,000 bp in size have been verified.

Kit Specifications			
Column Binding Capacity	25 µg	Average Yield	Up to 1 µg from 3 mL of culture
Size of Plasmids Purified	Up to 14,000 bp	Time to Complete 10 Purifications	30 minutes

Low Copy Plasmid MiniPrep Kit Benefits

Fast and easy processing	Rapid spin-column format allows for the processing of multiple samples in 30 minutes.
High recovery	0.5 to 1 µg of low copy plasmid DNA can be purified from 3.0 mL of bacterial culture (Table 1).
Recovered DNA is suitable for downstream applications	Purified plasmid DNA is fully compatible with restriction enzyme digestions and manual or automated sequencing.
Alcohol-free protocol	No alcohols are used during the purification process, thus the DNA is compatible with alcohol sensitive downstream applications.

Low Copy Plasmid MiniPrep Kit

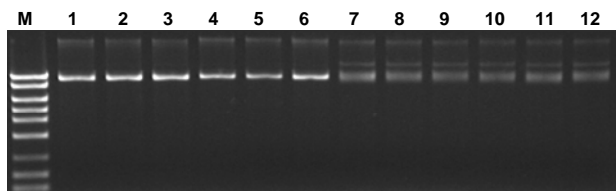


Figure 1. Isolation of High Quality DNA from Low Copy Number Plasmids

The Low Copy Number Plasmid MiniPrep Kit was used to isolate plasmid DNA from 3 mL cultures. Lanes 1-6 are pSYX20 DNA (10-20 copies per cell) while lanes 7-12 are pSC101DNA (2-3 copies per cell). Five microlitres of the total elutions were loaded onto the gel, with Lanes 1-3 and 7-9 corresponding to 30 μ L elutions, and Lanes 4-6 and 10-12 corresponding to 50 μ L elutions. In all cases, the DNA is of a high quality, indicated by the presence of sharp bands and no degradation of the isolated DNA. Lane M is Norgen's MidRanger 1kb DNA Ladder.

Low Copy Plasmid MiniPrep Kit Contents

1. Resuspension Buffer
2. Lysis Solution
3. Binding Solution
4. RNase A
5. Wash Solution
6. Elution Buffer
7. Micro Spin Columns
8. Elution Tubes
9. Product Insert

Customer-Supplied Reagents and Equipment

- Benchtop microcentrifuge
- 1.5 mL microcentrifuge tubes

Plasmid	Plasmid Size (kbp)	Copies per Cell	Average DNA Recovered (ng)
pSYX20	14.5	10-20	1000
pSC101	10	2-3	400

Table 1. High DNA Yield from Small Cultures

The Low Copy Plasmid MiniPrep Kit was used to isolate two different low copy plasmids from 3 mL cultures. In each case, the isolation was performed in triplicates. The average yield of the low copy number plasmids is high in both cases.

Storage Conditions

All solutions should be kept tightly sealed and stored at room temperature. The RNase A should be stored at -20°C upon arrival. The Resuspension Buffer should be stored at 4°C upon addition of RNase enzyme. All reagents should remain stable for at least 1 year in their unopened containers.

Shipping Conditions

The Low Copy Plasmid MiniPrep Kit is shipped at room temperature.

Cat #	Description	Quantity
17800	Low Copy Plasmid MiniPrep Kit	25 preps