



Rapid, High Yield Purification of Plasmids Free of RNA and Genomic DNA

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EPICENTRE Biotechnologies' PlasmidMAX™ DNA Isolation Kit produces high quality plasmid DNA free of RNA and genomic DNA, which is pure enough for sequencing and uses only two 1.5 ml tubes, thus avoiding excess plastic waste. Compared to a leading 5-minute spin column-based plasmid purification kit, PlasmidMAX-purified samples gave: higher DNA yields, less residual RNA, and greater or equal sequence read lengths.

The PlasmidMAX procedure is scalable to larger or smaller starting numbers of cells, without having to buy separate size-specific (mini-, midi-, maxi-) kits. The Kit purifies plasmid DNA (size range tested 2.7 to 40 kb) without the need for toxic organic solvents. From 1.5 ml of an overnight *E. coli* culture, PlasmidMAX routinely yields 2 µg or more of high-copy plasmid DNA that is free of RNA, unlike a leading 5-minute plasmid purification kit (See FIG 1).



FIG 1. Comparison of plasmid DNA purified using the PlasmidMAX™ DNA Isolation Kit and a leading 5-minute method. From 400 µl of an overnight *E. coli* K12 culture, plasmids were purified by each method. **Lane 1**, Supercoiled DNA ladder; **Lane 2**, Leading 5-minute purification method; **Lane 3**, PlasmidMAX DNA. The size of the plasmid is 4.5 kb. Arrow indicates RNA contamination in lane 2.

In terms of suitability for DNA sequencing, PlasmidMAX supported a sequence read length equivalent to that obtained from DNA purified by a leading spin column-based plasmid kit. Additionally, PlasmidMAX caused less linearization than a column-based kit (See FIG 2). Plasmids prepared with both kits gave comparable transfection efficiencies with HeLa cells and had similar insignificant endotoxin levels, exogenous contaminants that can reduce transfection efficiencies of sensitive eukaryotic cells. Table 1 summarizes these comparisons.

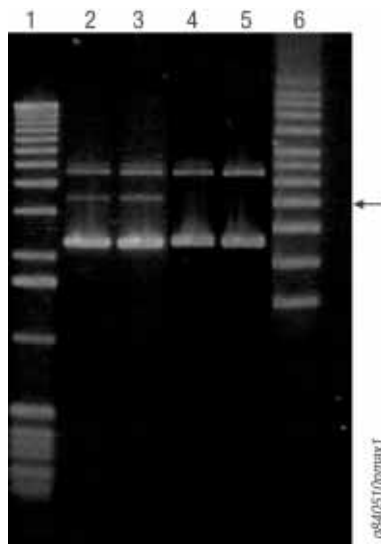


FIG 2. PlasmidMAX™ DNA Isolation Kit causes less linearization than a leading spin column-based method. Lane 1, kb DNA ladder; Lanes 2 and 3, Column-based method; Lanes 4 and 5, PlasmidMAX DNA; Lane 6 Supercoiled kb ladder. The size of the plasmid is 3.5 kb. Arrow indicates linearized plasmid.

Benefits	Plasmid Kit	
	PlasmidMAX™ Kit	Column-based kit
DNA yield from 400 µl of culture	2 µg	1 µg
Transfection	+++	+++
Endotoxin Level	Trace	Trace
Scalable	Yes	No

Table 1. Plasmid transfection efficiencies with HeLa cells and associated endotoxin levels.

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PlasmidMAX™ DNA Isolation Kit
PMX51050 50 Minipreps

TargetAmp™ Kits—Cont'd from Page 5

Conclusion

In this report, we have demonstrated that the TargetAmp™ 1-Round and TargetAmp 2-Round aRNA amplification reactions maintain the relative transcript abundance in a total RNA sample. This ensures that the aRNA (or aminoallyl-aRNA) produced by the TargetAmp 1-Round and TargetAmp 2-Round reactions yield high quality, biologically valid microarray data, which were confirmed by microarray results obtained with an Affymetrix MG430 2.0 GeneChip as judged by Affymetrix quality metrics, concordance of Present and Absent calls with the Affymetrix Protocol, and detection of differentially expressed genes.

References

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www.EpiBio.com/targetamp.asp

TargetAmp™ 2-Round Aminoallyl-aRNA Amplification Kit 1.0

Produce microgram amounts of aminoallyl-labeled aRNA from 1 to 50 cells (10 pg to 500 pg of total cellular RNA) for greater than 5,000,000-fold amplification.

TAA2R4910	10 Reactions
TAA2R4924	24 Reactions

TargetAmp™ 2-Round aRNA Amplification Kit 2.0

Produce microgram amounts of unlabeled-aRNA from 1 to 50 cells (10 pg to 500 pg of total cellular RNA) for greater than 5,000,000-fold amplification.

TAU2R5110	10 Reactions
TAU2R51224	24 Reactions

TargetAmp™ 1-Round Aminoallyl-aRNA Amplification Kit 101

Produce microgram amounts of aminoallyl-aRNA from as little as 25 ng of total cellular RNA.

TAA1R4910	10 Reactions
TAA1R4924	24 Reactions

TargetAmp™ 1-Round aRNA Amplification Kit 103

Produce microgram amounts of unlabeled-aRNA from as little as 25 ng of total cellular RNA.

TAU1R5110	10 Reactions
TAU1R5124	24 Reactions

Biotin-X-X-NHS

Convenient 2.5 mg vials of biotin-X-X-NHS for fast and efficient conjugation of biotin to aminoallyl-aRNA.

BXX51005	5 X 2.5 mg/vial
BXX51010	10 X 2.5 mg/vial