

Get the Highest Yields of Yeast DNA Using the MasterPure™ Yeast DNA Purification Kit

The MasterPure™ Yeast DNA Purification Kit is a simple and nonenzymatic approach to yeast genomic DNA purification. High quality yeast DNA can be obtained in less than 40 minutes without columns, resins or organic extractions. Recover DNA from a wide variety of yeast species including *Candida*, *Saccharomyces*, *Pichia*, and *Schizosaccharomyces*, and filamentous fungi such as *Asperigillus* and *Penicillium*.

Higher yield than the competition

Using the simple, short protocol (Table 1), DNA yields obtained with the MasterPure Kit were consistently above those of two competing kits (Figure 1). For example, the kit from supplier F averaged 0.25 µg of DNA from 1.5 ml of *S. cerevisiae*, whereas the MasterPure Kit produced an average of 2.94 µg, almost twelve times as much. The supplier Q kit produced 1.8 µg of *S. cerevisiae* DNA from the same culture volume.

Table 1. Protocol for MasterPure Yeast DNA Purification Kit (for 1.5 ml culture):

- 1 Lyse cells in the Yeast Cell Lysis Solution.
- 2 Precipitate and remove proteins using MPC Protein Precipitation Reagent.
- 3 Precipitate, wash, and resuspend the nucleic acids.

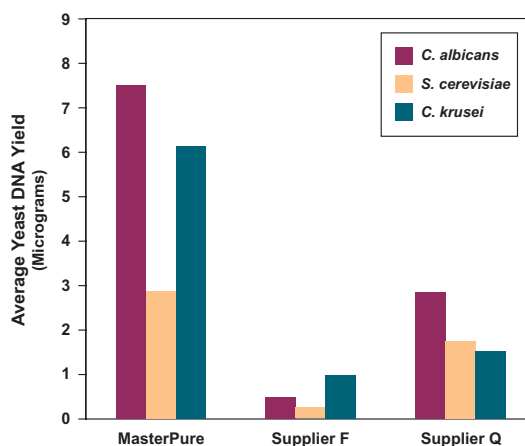


Figure 1. The MasterPure™ Yeast DNA Purification Kit gives higher yields of DNA than other kits. DNA yields were from 1.5 ml cultures and quantitated by fluorometry with Hoescht 33258 dye. The data represent the average of duplicate extractions from either one (*C. krusei*) or two (*S. cerevisiae* and *C. albicans*) experiments.

High molecular weight DNA

The MasterPure Kit yields high molecular weight yeast DNA. As determined by pulsed field gel electrophoresis, the size of the *S. cerevisiae* DNA isolated with the MasterPure Yeast DNA Purification Kit is approximately 40-50 Kb, while DNA of the same yeast species purified with the kit from supplier Q was mostly degraded to fragments smaller than 40 Kb (Figure 2A). A similar size discrepancy was observed for *C. albicans* DNA (data not shown).

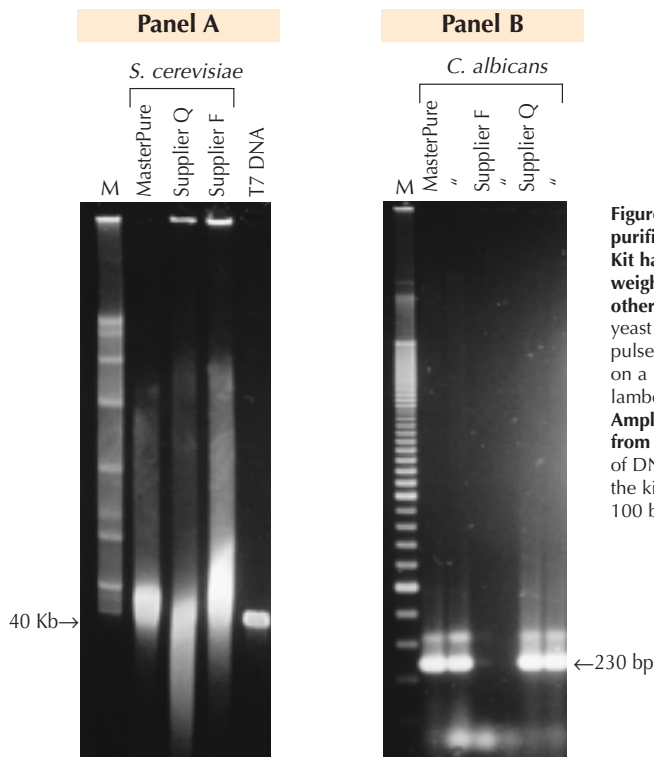


Figure 2. Panel A: Yeast DNA purified using the MasterPure™ Kit has a higher molecular weight than DNA purified using other kits. 500 ng of purified yeast DNA was analyzed by pulsed field gel electrophoresis on a 1% agarose gel. Lane M, lambda DNA ladder. **Panel B: Amplification of the DUT gene from *C. albicans*.** Ten nanograms of DNA purified using each of the kits was amplified. Lane M, 100 bp ladder.

PCR-Ready DNA

The MasterPure Kit produces high-quality DNA that can be used directly for many applications including PCR amplification, restriction endonuclease digestion, Southern blotting, and genomic library preparation. Figure 2B shows PCR amplification of the dUTP pyrophosphatase (DUT) locus using *C. albicans* DNA as the template.

DNA purification from single yeast colonies

The protocol can be easily adjusted for larger or smaller samples, including single yeast colonies. For example, the average yield for *S. cerevisiae* colonies was 188 ng and for *C. albicans*, 538 ng. Increasing the volume of the preparation twenty-fold, the DNA yield from a 30 ml culture of *S. cerevisiae* was 77 µg, and for *C. albicans*, 430 µg.

MasterPure™ Yeast DNA Purification Kit

MPY80010-F83 10 Purifications
MPY80200-F83 200 Purifications

Contents:

Yeast Cell Lysis Solution, MPC Protein Precipitation Reagent, TE Buffer, RNase A