Simple & Efficient Post-PCR Purification with the Isohelix DCU Concentrate & Cleanup Kit

The new DCU PCR Clean-up protocol allows for fast, efficient purification of post-amplification samples ready for use in sequencing and other applications using an all-in-one method, without the need for columns, gel extractions or additional solvents.

To demonstrate the performance of the DCU kit, 300bp amplicons of human ACTB & microbial 16S genes were generated from salivary DNA collected and purified using GeneFix kits, which were subsequently processed using the DCU PCR clean-up protocol using triplicate 50µl amplicon samples. Following processing, the samples were analysed on a 2.0% agarose gel and compared against unprocessed controls and were evaluated for yield & purity.

The DCU kit reliably purifies PCR amplicon samples *(Figures 1 & 2),* removing contaminating by-products of the PCR reaction while maintaining high recovery yields & purities across both human and microbial samples tested.

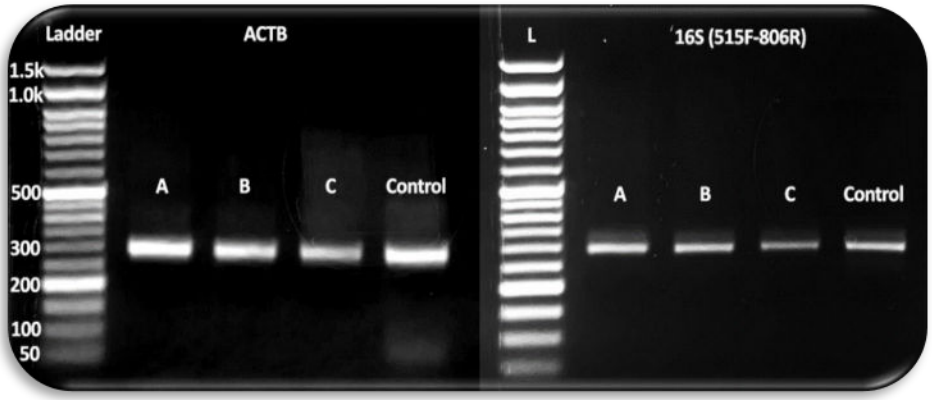

Figure 1: Clean-up of human ACTB & microbial 16S amplicon samples post-PCR using the DCU kit. Samples are efficiently purified while maximising recovery.

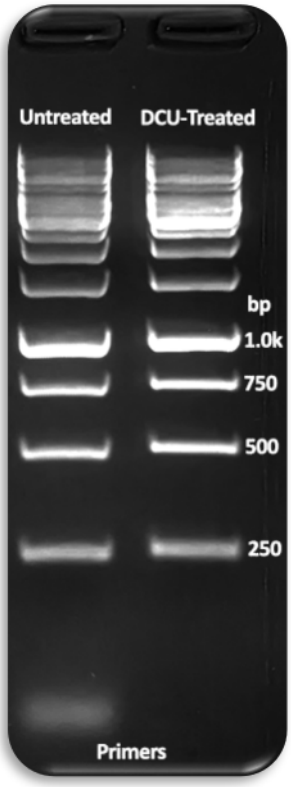

Figure 3: The DCU kit effectively removes primers, dNTP's, & other contaminants from DNA samples.

Additionally, to demonstrate efficient removal of PCR primers, dNTP & other low molecular weight contaminants, 1kb DNA ladder spiked with an excess of 19mer & 26mer primers was treated using the DCU clean-up protocol, following which samples were run on a 2.0% agarose gel to evaluate the process.

The results *(Figure 3)* display that the DCU clean-up protocol removed contaminating low-molecular weight DNA while retaining higher weight fragments.

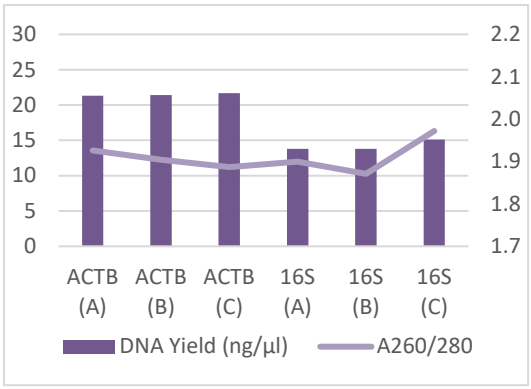

Figure 2: High recovery yields and A260/280 purities >1.7 are maintained while removing contaminants from PCR.

- DCU removes PCR by-products such as primers, dimers, dNTP's, and enzymes from samples.
- High Recovery of PCR products.
- Spin-Column/Guanidine free. No gel extraction needed.
- Purifies samples within 20 minutes.
- All-in-one method with no additional reagents required.