The chemagic Seq Pure Kit was developed to purify sequencing reactions, including BigDye® terminator reactions. Clean-up is performed using the unique chemagic Magnetic Bead based technology.

The clean-up process is simple, fast and convenient as it requires neither centrifugation, nor filtration steps and removes any type of dye terminator from 5-20 µl sequencing reactions. The kit has been optimized for use with Amersham DYEnamic ET and BigDye® chemistries (including v1.1 and v3.1) and yields highly purified sequencing reaction products. The protocol recommends 1/4-1/16 x scale reactions to save on reagent costs, to reduce dye blobs and to improve sequence data quality. The obtained results are of the highest quality with high fluorescent signal intensities, eliminated dye blob occurrence and routinely long read lengths (> 900 bp). They achieve 98 % accuracy to 900 bases and Phred 20 quality scores > 825 bases.
chemagic Seq Pure Kit

For high throughput sequence clean-up reactions the chemagic Seq Pure Kit can be adapted on commonly used liquid-handling systems e.g. PerkinElmer® JANUS® Mini MDT® (Fig. 1, Fig. 3b).

The chemagic Seq Pure Kit is best used with the chemagic Stand 96 (Fig. 3c), the ideal accessory for automated or manual purifications. Furthermore, the chemagic Magnetic Separation Module I (Fig. 2, Fig. 3a), as a validated high throughput system, is an ideal solution for the automated sequence clean-up.

Figure 2: Plasmid Sequencing
Electropherogram of a purified BigDye® terminator v3.1 sequencing reaction. It was purified using the chemagic Seq Pure Kit and chemagic Magnetic Separation Module I.

Sequencing reactions were performed using 1/4 x BigDye® terminator v3.1 chemistry, pGEM-3Zf(+) (400 ng), and pUC/M13 (-21) oligonucleotide primer. After purification, the samples were analysed on an Applied Biosystems 3730 DNA® Analyzer. This electropherogram is typical for the high quality reads achieved using this clean-up method (Phred 20 > 825).