Axygen® AxyPrep Magnetic Bead Purification Kits

AXYGEN
A Corning Brand

Sample Prep Solutions for Genomics

Obtaining Pure Nucleic Acids from Your Sample is Precious

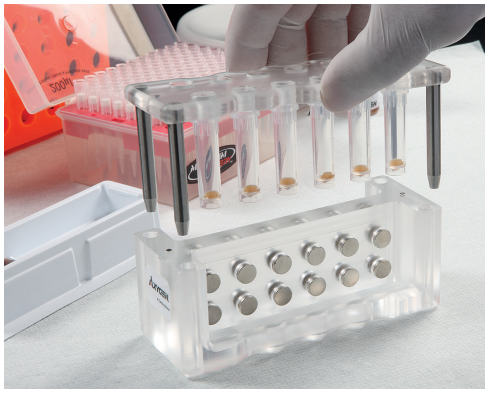
The purification of high quality DNA is the first essential step for any genomics-based downstream application. Poor quality may contribute significantly to the failure of downstream applications and thus delay research and increase overall research costs.

Corning has developed a comprehensive range of magnetic beads-based isolation reagents. The Axygen® AxyPrep Magnetic (MAG) Bead Purification Kits utilize a unique paramagnetic bead-based chemistry for the purification and clean-up of nucleic acids for many genomics downstream applications such as DNA sequencing, genotyping, and gene expression. Free of major hazardous chemicals, our products do not compromise on performance featuring high quality, high yields, excellent sample concentration, and long sequencing reads. Additionally, this makes our MAG kits easy to transport and store.

Axygen IMAG Magnetic Separation Devices (MSD) and AxyPrep Magnetic Bead Purification Kits cut the total separation process and labor by up to 50%. IMAG MSDs are available in tube (IMAG-12T) or 96 well microplate format (IMAG-96P). They enable manual users to process any magnetic beads-based purification or clean-up process as easily and conveniently as automation users for use in biological research, including nucleic acid purification and clean-up, cell-based assays, and antibody and protein purification.

Our kits have been adopted by life science research institutes worldwide and continue to generate satisfaction and compliments from our customers for their excellent quality and performance.

For a demonstration, contact your local Corning Life Sciences Account Manager.



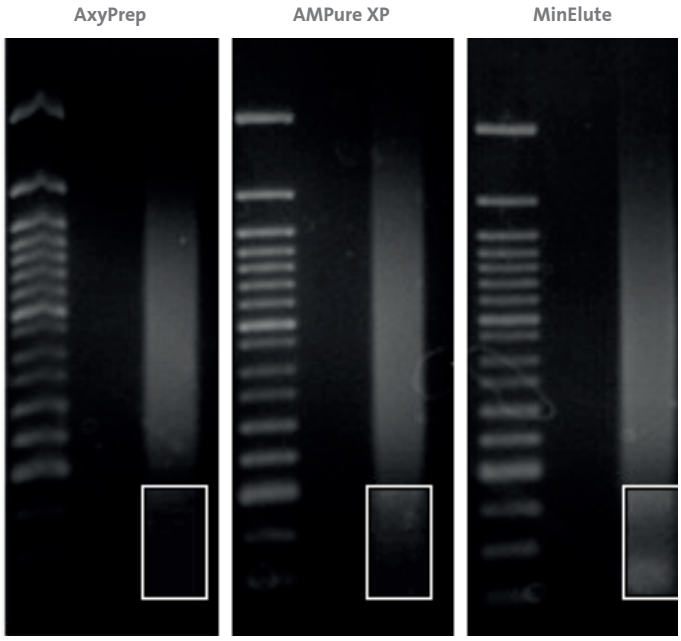
Axygen® AxyPrep MAG PCR Clean-Up Kit

Applications

- Sanger sequencing
- Next Generation sequencing

The AxyPrep MAG PCR Clean-Up Kit is designed for efficient removal of unincorporated dNTPs, salts, and enzymes after any post PCR. These contaminants are detrimental to the success of downstream applications such as genotyping Sanger and next generation sequencing. The AxyPrep MAG PCR Clean-Up Kit utilizes a unique paramagnetic bead technology for quick high-throughput purification of PCR amplicons. AxyPrep MAG PCR Clean-Up utilizes an optimized buffer to selectively bind PCR amplicons of 60-100 bp or >100 bp to paramagnetic beads, providing end users flexibility and high recovery options with efficient primer-dimer removal based on their downstream application needs. The protocol mainly consists of binding, washing, and elution steps. Primers, nucleotides, salts and enzymes in PCR mixture are removed during the binding and washing steps. The purified PCR product is essentially free of contaminants.

- Flexible Clean-Up: High recovery of amplicons with the option to choose recovery of >60 bp or >100 bp
- Efficient removal of unincorporated dNTPs, primers, primer dimers, salts, and other contaminants
- Manual and automation-compatible protocol
- Processing time: 15 minutes/96 samples
- No centrifugation or filtration required



Efficient Removal of Primer Dimers

Eliminates extra clean-up steps and reduces the potential of sequencing bias. Gel images of post clean-up of an Illumina library post adaptor ligation. The white box demonstrates that AxyPrep MAG Clean-Up results in no primer dimer carry over which can be observed with Agencourt® AMPure® and Qiagen® MinElute®.

Magnetic Beads Kits	Kit Size	Cat. No.
AxyPrep MAG PCR Clean-Up Kit, 5 mL	227 preps	MAG-PCR-CL-5
AxyPrep MAG PCR Clean-Up Kit, 50 mL	2,777 preps	MAG-PCR-CL-50
AxyPrep MAG PCR Clean-Up Kit, 250 mL	13,888 preps	MAG-PCR-CL-250

Axygen® AxyPrep MAG DyeClean Up Kit

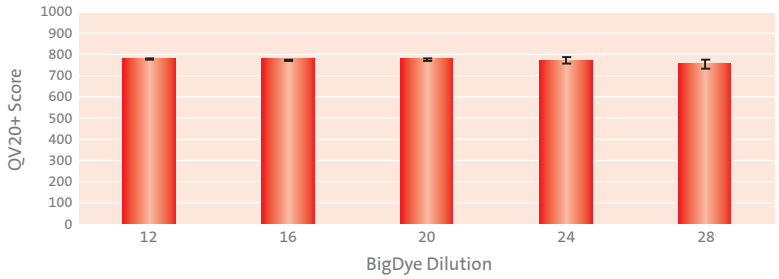
Applications

- Sanger sequencing

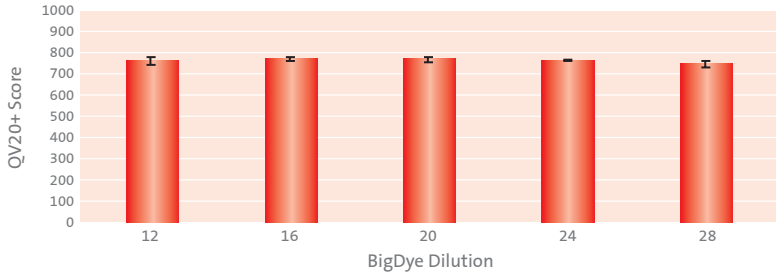
Excess dye terminator clean-up is an essential step prior to sequencing. The carry over of excess dye into sequencing results in dye blobs, which leads to overwhelming noise and failed calls of sequenced bases and potentially leading to the failure of the sequencing run. AxyPrep MAG DyeClean utilizes a unique paramagnetic bead-based sequencing purification system optimized for the clean-up of excess dye terminator post sequencing reaction in Sanger sequencing. The protocol mainly consists of binding, washing and elution steps, and can be performed directly in the thermal cycling plate and requires no centrifugation or filtration.

- Saving time and money: Significant BigDye savings without incurring extra cost and processing time with the unneeded BigDye signal enhancer buffer, while maintaining high QV20+ scores
- High signal to noise ratio resulting in long reads and high QV20+ scores
- Suitable for the clean-up of sequencing reaction of different Sanger sequencing based platforms – ABI® Prism 3730, 3730xl, 3700. 3130, 31030xl, and 3100 – GE Healthcare MegaBACE
- Simple and easy sequencing reaction clean-up process: 25 minutes/96 samples
- No centrifugation or filtration required

QV20+ Scores Achieved Post Sequencing Reaction Clean-Up with AxyPrep MAG DyeClean



QV20+ Scores Achieved Post Sequencing Reaction Clean-Up with AxyPrep MAG DyeClean and BigDye Signal Enhancer Buffer



Savings Achieved On BigDye Without The Need For A Signal Enhancer While Maintaining High QV20+ Scores. The QV20+ scores achieved indicates that there is no need for the use of the BigDye Signal Enhancer buffer (MCLab) when AxyPrep MAG DyeClean is utilized for the post sequencing reaction clean-up. Sequencing reactions were performed with plasmid and primer provided in the BigDye v3.1 kit. The sequencing reactions contained 250 ng of pGEM 3Zf(+) control plasmid, 3.2 pmol of M13(-21) primer and the indicated amount of BigDye v3.1 in a final volume of 10 µL. The samples were processed on ABI 3730xl.

Magnetic Beads Kits	Kit Size	Cat. No.
AxyPrep MAG PCR DyeClean Kit, 5 mL	500 preps	MAG-DYECL-5
AxyPrep MAG PCR DyeClean Kit, 50 mL	5000 preps	MAG-DYECL-50
AxyPrep MAG PCR DyeClean Kit, 250 mL	25000 preps	MAG-DYECL-250

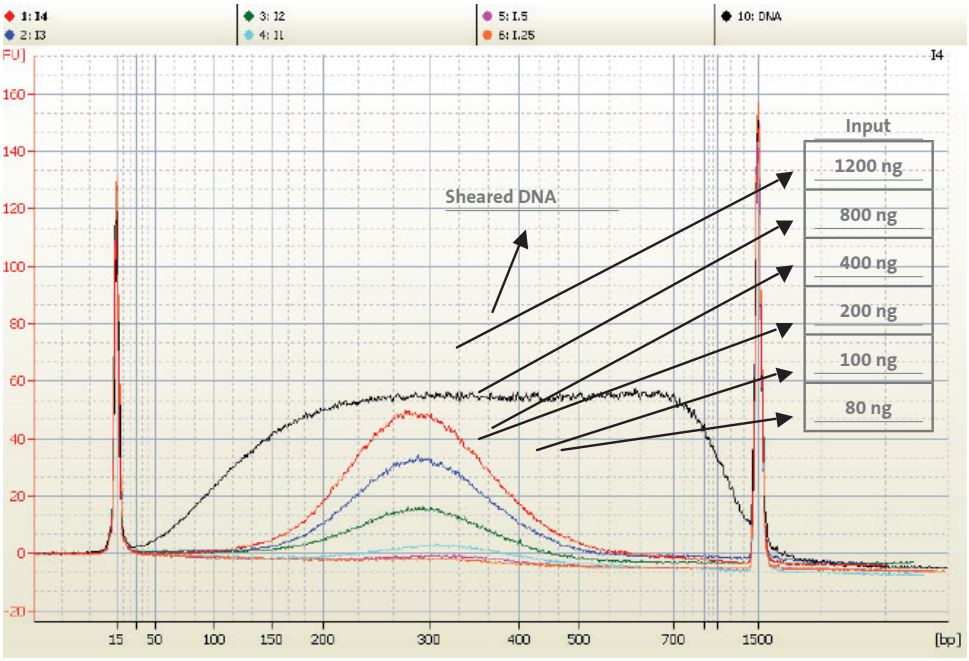
Axygen® AxyPrep MAG FragmentSelect-I Kit

Applications

- Illumina® Next Generation sequencing
- Life Technologies (SOLiD) fragment size selection
- Library construction

Post DNA shearing, the library construction process for next generation sequencing mostly requires fragment selection regardless of the platform. Obtaining high recovery post fragment selection is becoming an important contributor for the reduction of sequencing bias. The AxyPrep MAG FragmentSelect-I Kit is optimized for Illumina next generation sequencing platforms and Life Technologies™ (SOLiD™) fragment size selection needs in the Roche/454's DNA Genome sequencer library construction workflow. The AxyPrep MAG FragmentSelect-I Kit utilizes a unique paramagnetic bead technology for quick high-throughput optimized DNA size selection suitable for various next generation sequencing platforms.

- AxyPrep MAG FragmentSelect-I Kit optimized fragment selection chemistries for Illumina and SOLiD
- Versatile and flexible sequential fragment size selection: No gels needed
- Efficient removal of primer-dimers: No need for further clean-up steps
- Manual and automation-compatible
- Scalable: Tube, 96 and 384 well plate formats
- No centrifugation or filtration required



Consistently High Amplicon Recovery. The effect of concentration of input DNA on fragment selection measured by Agilent® BioAnalyzer on a High Sensitivity DNA chip.

Magnetic Beads Kits	Kit Size	Cat. No.
AxyPrep MAG FragmentSelect-I Kit, 5 mL	4 preps	MAG-FRAG-I-5
AxyPrep MAG FragmentSelect-I Kit, 50 mL	380 preps	MAG-FRAG-I-50
AxyPrep MAG FragmentSelect-I Kit, 250 mL	1900 preps	MAG-FRAG-I-250

Axygen® IMAG™ Handheld Magnetic Beads Separation Devices

The use of magnetic separation devices (MSDs) are essential in any paramagnetic beads-based purification process. Traditionally, MSDs are not optimized for manual use and most require electrically powered liquid handling systems. IMAG MSDs are available in tube or microplate format and are designed to simplify the manual processing of magnetic bead separations, including nucleic acid purification and clean-up, cell based assays, and antibody and protein purifications.

- IMAG MSDs accommodate single tube or 96 well microplate formats
- Fast separation time
  - Strong magnets enable less than 30 second separation times
  - Holds tubes or microplate enabling fast wash steps
- Manual operation enables low or high throughput

Applications

- Nucleic acid purification and clean-up
- Cell based assays
- Antibody and protein purifications

IMAG-96P: Separation of magnetic beads in microplate format

10 seconds after separation process | 20 seconds after separation process | 30 seconds after separation process

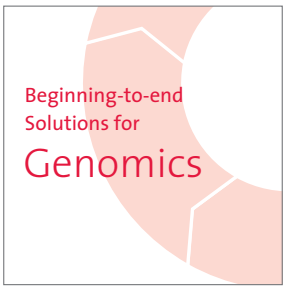
IMAG-12T: Separation of magnetic beads in tube format

10 seconds after separation process | 20 seconds after separation process | 30 seconds after separation process

Hand-held Magnetic Beads Separation Devices	Packaging	Cat. No.
IMAG magnetic hand-held device for screw cap tubes	1 unit	IMAG-12T
IMAG universal magnetic hand-held device for PCR and 96 well plates	1 unit	IMAG-96P

Compatibility Chart

Axygen® AxyPrep MAG Kit	Use It To	Applications
AxyPrep MAG DyeClean	Efficiently remove primer-dimers from PCR amplicons	Sanger and NGS, Post PCR clean-up
AxyPrep MAG FragmentSelect-I	Clean and select desired DNA fragments from 150 bp to 1 kb	NGS on Illumina® and Ion Torrent®, library construction
AxyPrep MAG PCR Clean-Up	Clean-up PCR amplicons	Sanger and NGS, genotyping, SNP, cloning



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In our continuous efforts to improve efficiencies and develop new tools and technologies for life science researchers, we have scientists working in Corning R&D labs doing what you do every day, across the globe. From collection to analysis, our technical experts understand your challenges and your need for simplified, efficient, low- to high-throughput genomics processes.

A combination of global manufacturing expertise, extensive use of in-house automation, an unsurpassed commitment to product innovation and a thorough understanding of your processes enables Corning to offer a beginning-to-end portfolio of high-quality, reliable consumables and reagents for genomics applications.

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