



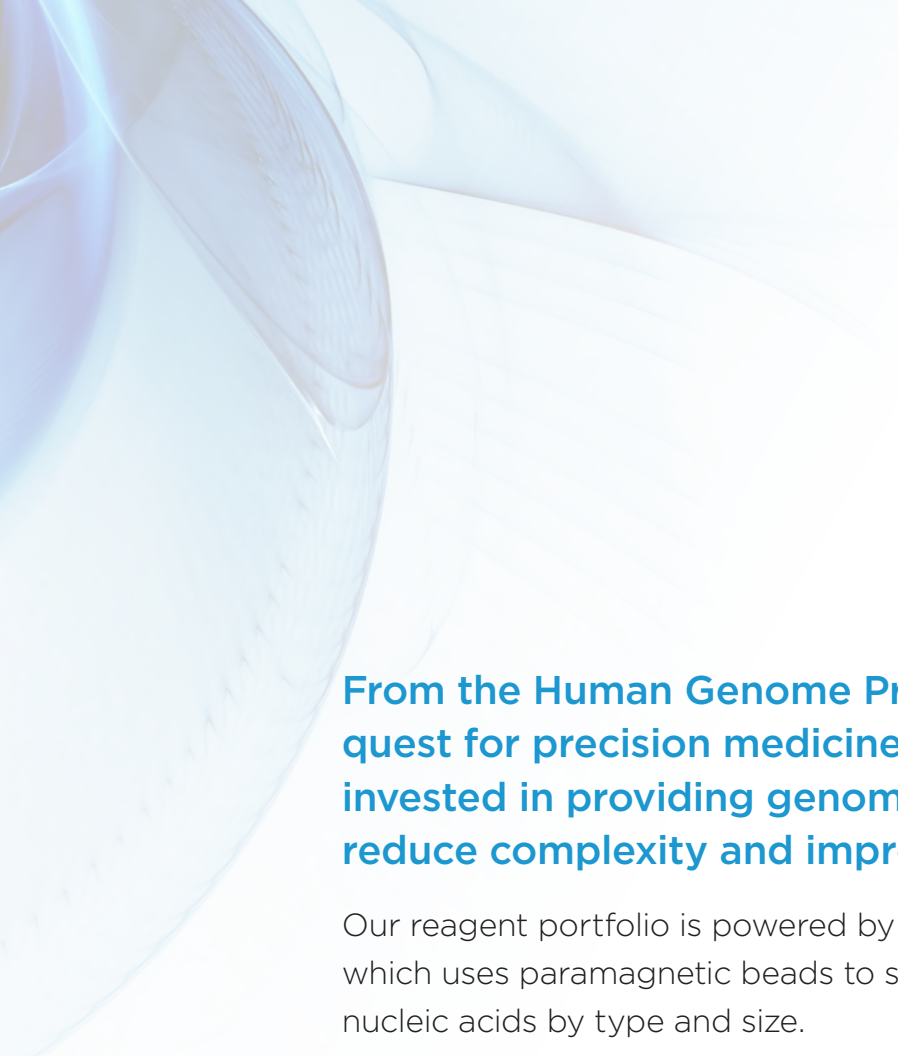
# GENOMIC REAGENT SOLUTIONS

NEXT-GENERATION SEQUENCING CLEANUP & SIZE SELECTION



EMPOWERING  
*real discoveries.*





**From the Human Genome Project to today's quest for precision medicine, we've long invested in providing genomic products that reduce complexity and improve productivity.**

Our reagent portfolio is powered by SPRI technology, which uses paramagnetic beads to selectively bind nucleic acids by type and size.

SPRI reagents enable our chemistries to deliver high-performance isolation, purification and cleanup protocols supporting applications such as qPCR, ddPCR, Sanger sequencing, microarrays and next-generation sequencing (NGS). And they can be used interchangeably between manual methods and automated methods on our Biomek liquid handlers, including the Biomek NGenius next generation library prep system combining optimum performance with unprecedented flexibility.

# AMPure XP reagent

## The gold standard in bead-based NGS cleanup and size selection

Maximizing recovery, consistency, and speed to facilitate the entire NGS workflow, AMPure XP reagent meets the stringent needs of today's genomic applications and minimizes the risk of losing important genetic information.

That's why it's suggested in over 200 library preparation kits, including those from the industry's most trusted sequencing companies.

- Works with DNA
- High recovery of amplicons, greater than 100 bp
- Efficient removal of unincorporated dNTPs, primers, primer dimers, salts and other contaminants
- Predictable and consistent size selection



One group suggests that AMPure XP is the best choice of DNA purification systems for analyses that require very high analytical stringency.

Mikheikin, A., Olsen, A., Picco, L. et al. High-speed atomic force microscopy revealing contamination in DNA purification systems. *Anal. Chem.* 88:5, 2527-2523 (2016) doi: 10.1021/acs.analchem.5b04023

## Seize More Critical Data

Loss of yield during purification and cleanup can lead to loss of discovery in your research. With AMPure XP reagent, you can retain up to 34% more genetic information compared to other cleanup reagents.



## Simulated Relative Costs of Performing Whole Genome NGS



Relative costs of the different steps required to perform various NGS applications. Steps include extraction, library construction, library enrichment, cleanup and sequencing. Costs were calculated based on average list price of commercially available kits and reagents in 2017. Cleanup efficiencies were calculated by determining the total DNA yield by Picogreen Assay after performing a cleanup procedure on a known amount of DNA. The percent yield relative to AMPure XP reagent performance was then used to calculate the impact of efficiency on various commercially available library construction methods and a change in purification reagent.

# SPRIselect reagent

## SPRI paramagnetic bead-based chemistry for simple & speedy size selection

SPRIselect reagent gives you more flexibility and control over the size selection process. Harnessing the power of SPRI technology, it provides robust, reproducible and customizable size selection with minimal lot-to-lot variance.

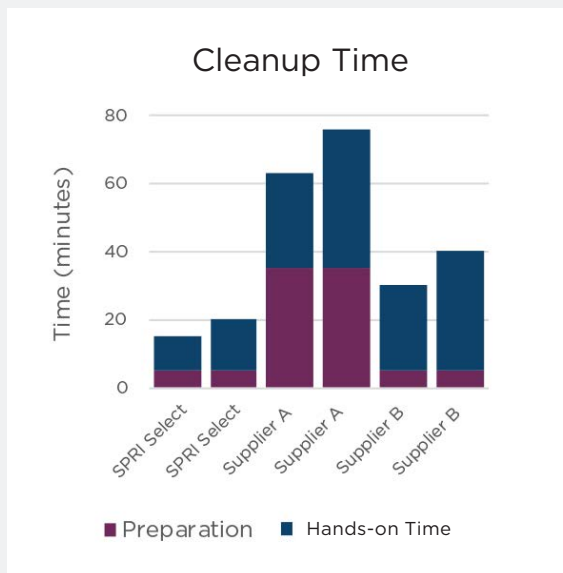


- Works with fragmented DNA
- Tunable from 150 to 800 base pairs to offer easy adjustments for specific applications and sequencers
- Predictable, consistent size selection between runs and reagent lots
- Scalable from manual to automated workflows for high throughput processing in 96-well plates
- Suggested for use in over 40 library preparation kits

- Room temperature storage frees up valuable 4°C space and gives confidence for ambient temperature shipping

### Store At Room Temperature

Don't worry about finding room in the crowded freezer—you can store SPRIselect reagent at room temperature, right on your bench. And because you don't have to wait for it to warm up, you can streamline your workflow, minimize hands-on time and start your library preparations sooner.



SPRIselect reagent and two other commercially available kits were used for size selection on sheared gDNA from E. coli. The graph represents the time for single size selection or cleanup. The SPRIselect reagent workflow for a single size selection is 4.2 and 2 times faster than supplier A and supplier B, respectively. The times were based on performing size selection for 8 samples manually.

# RNAClean XP reagent

The only cleanup kit with nondetectable levels of RNase

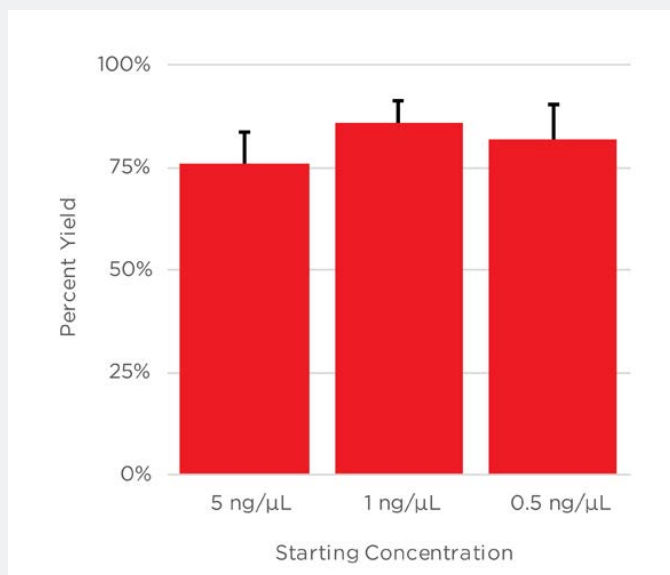
Thanks to our proprietary SPRI paramagnetic bead-based chemistry, RNAClean XP reagent enables you to purify RNA and cDNA from common enzymatic reactions and helps to ensure efficient recovery of your samples.

- Works with RNA and cDNA
- Compatible with manual and automated processing
- Complete removal of salts, unincorporated primers and dNTPs
- Simple automation-friendly protocol with no centrifugation, filtration or precipitation steps
- Suggested for use in over 20 RNA-seq library preparation kits



## Simple, Flexible & Highly Reproducible

The RNAClean XP reagent doesn't use organic solvents, vacuum filtration, or centrifugation, and delivers superior nucleic acid recovery and purity for use in downstream applications.









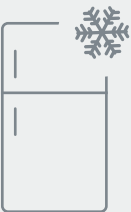


Three starting concentrations were purified using RNAClean XP reagent. They all had a percent yield that was similar, and the average recovery was 78%



# Selecting the right reagent

Here's a quick guide to help you choose the right reagent for your genomic application.

REAGENT	NUCLEIC ACID INPUT	STORAGE TEMPERATURE	KEY DIFFERENTIATOR	PART NUMBERS & VOLUMES
 <b>AMPURE XP REAGENT</b>	 Works with DNA	 4°C	Known as the gold standard and suggested in over 200 library preparation kits, including those from the industry's most trusted sequencing companies.	A63880, 5 mL A63881, 60 mL A63882, 450 mL
 <b>SPRISELECT REAGENT</b>	 Works with fragmented DNA	 Room Temperature	Quality controlled for size selection, and manufacturing practices to limit lot-to-lot variation.	B23317, 5 mL B23318, 60 mL B23319, 450 mL
 <b>RNACLEAN XP REAGENT</b>	 Works with RNA and cDNA	 4°C	The only cleanup kit that has non-detectable levels of RNase.	A63987, 40 mL A66514, 450 mL

# Complete your workflows

NGS library preparation can be complemented by a growing portfolio of genomic solutions from Beckman Coulter Life Sciences, which currently includes nucleic acid extraction and purification solutions for a range of input material, as well as automated and semi-automated devices. Our high-performance SPRI bead and SuperSPRI bead technology use magnetic beads to selectively immobilize nucleic acids by type and size, and optimized binding conditions enable highly specific separation and cleanup protocols.

## Automated NGS Library Preparation



### CleanSEQ Reagents

- A rapid, high-performance dye-terminator removal process using SPRI technology
- Produces sequences with longer Phred 20 read lengths and higher signal intensities than any other purification technology

## DNA Cleanup for Genetic Engineering



### EMnetik System

- 2 times faster turnaround time compared to column PCR cleanups used in genetic engineering workflows
- Plasmid recovery of 4-7  $\mu\text{g}$
- Intuitive user interface removes guesswork by providing clear, step-by-step instructions

## RNA Isolation



### RNAdvance Kits

#### Blood, Cell, Tissue and Viral kits

- Extract RNA from blood (PAXgene tubes), cultured eukaryotic cells, tissue, or saliva and swab transport media
- Produce high-quality RNA compatible with a variety of analysis techniques, such as NGS, microarray, or qRT-PCR

## cfDNA Extraction



### Apostle MiniMax™ Kits

#### High Efficiency cfDNA Isolation Kit

- Isolates cfDNA from 1-5 mL of plasma for liquid biopsy
- Demonstrated compatibility with a variety of collection tubes

# ONE TRUSTED PARTNER FOR AUTOMATED LIQUID HANDLERS, CONSUMABLES AND SERVICE

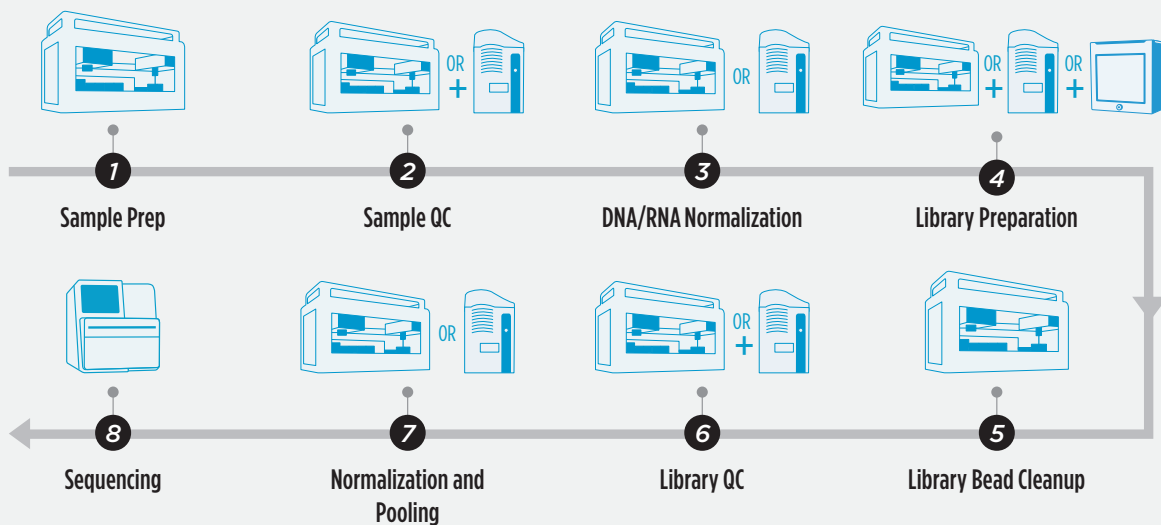
Acoustic and tip-based technologies for  
low- to high-volume transfers

**Strike NGS workflow gold** with our broad portfolio of automated liquid handling solutions that leverage precise methods and custom applications for standard and reduced reaction volumes, delivering reliable, high-throughput results.

Our solutions can help you and your lab:

- Realize a new level of cost savings and throughput
- Achieve end-to-end NGS automation at standard and reduced reaction volumes
- Easily automate your current and future workflows
- Deliver results with confidence by generating high-quality sequencing data

## Generate Accurate Data Faster by Automating Your NGS Workflow



### LEGEND



Biomek Automated Workstation



Echo Acoustic Liquid Handler



Biomek NGeniusS Next Generation Library Prep System



## Biomek Workstation Solutions for Genomic Applications

### Biomek i5 Automated Genomic Workstations



- 25 deck positions to support mid-throughput workflows
- Multichannel or Span-8 with gripper options

### Biomek i7 Automated Genomic Workstations



- Spacious, open-platform with 45 deck positions for high-throughput applications
- Hybrid Workstation with Multichannel pod, Span-8 pod and two independent grippers. Other pipetting configurations are possible as well.

## Echo Liquid Handlers for Genomic Applications

### Echo 650 Acoustic Liquid Handler



### Echo 525 Acoustic Liquid Handler



Echo acoustic liquid handling (LH) technology revolutionizes genomic applications by using sound energy to enable highly accurate, fully automated, non-contact dispensing of fluids in nL to  $\mu$ L volumes. By reducing reaction volumes, the Echo LH offers significant cost savings in reagents, and considerable amount of time savings for barcoding/indexing and normalization and pooling while preserving data quality.

## Biomek NGenius Workstation

### The latest in a long line of Smart Automation Technology

Inspired by Beckman Coulter's 30-plus years of laboratory automation and Smart Automation Technology, Biomek NGenius Workstation represents an evolutionary leap in NGS liquid-handling systems with its best-in-class performance, error-reduction technology, ease-of-use, reduced hands on time, and flexibility.





## Our Reagents Can Help You Get the Data You Need

Our genomic reagents lead the way in nucleic acid purification and cleanup technology. Collectively, they've helped generate research in over 20,000 scientific publications and are suggested for use in over 200 library preparation kits.

For more information, visit [beckman.com](https://beckman.com)

Products identified are not for validated for use in diagnostic or therapeutic procedures

Echo is a trademark or registered trademark of Labcyte, Inc. Labcyte is a Beckman Coulter company.

©2022 Beckman Coulter, Inc. All rights reserved. Beckman Coulter, the Stylized Logo, and Beckman Coulter product and service marks mentioned herein, including SPRI, SuperSPRI, Biomek and Biomek NGenius, are trademarks or registered trademarks of Beckman Coulter, Inc. in the United States and other countries. All other trademarks are the property of their respective owners.

---

For Beckman Coulter's worldwide office locations and phone numbers, please visit Contact Us at [beckman.com](https://beckman.com)

2022-GBL-EN-100610-V1