



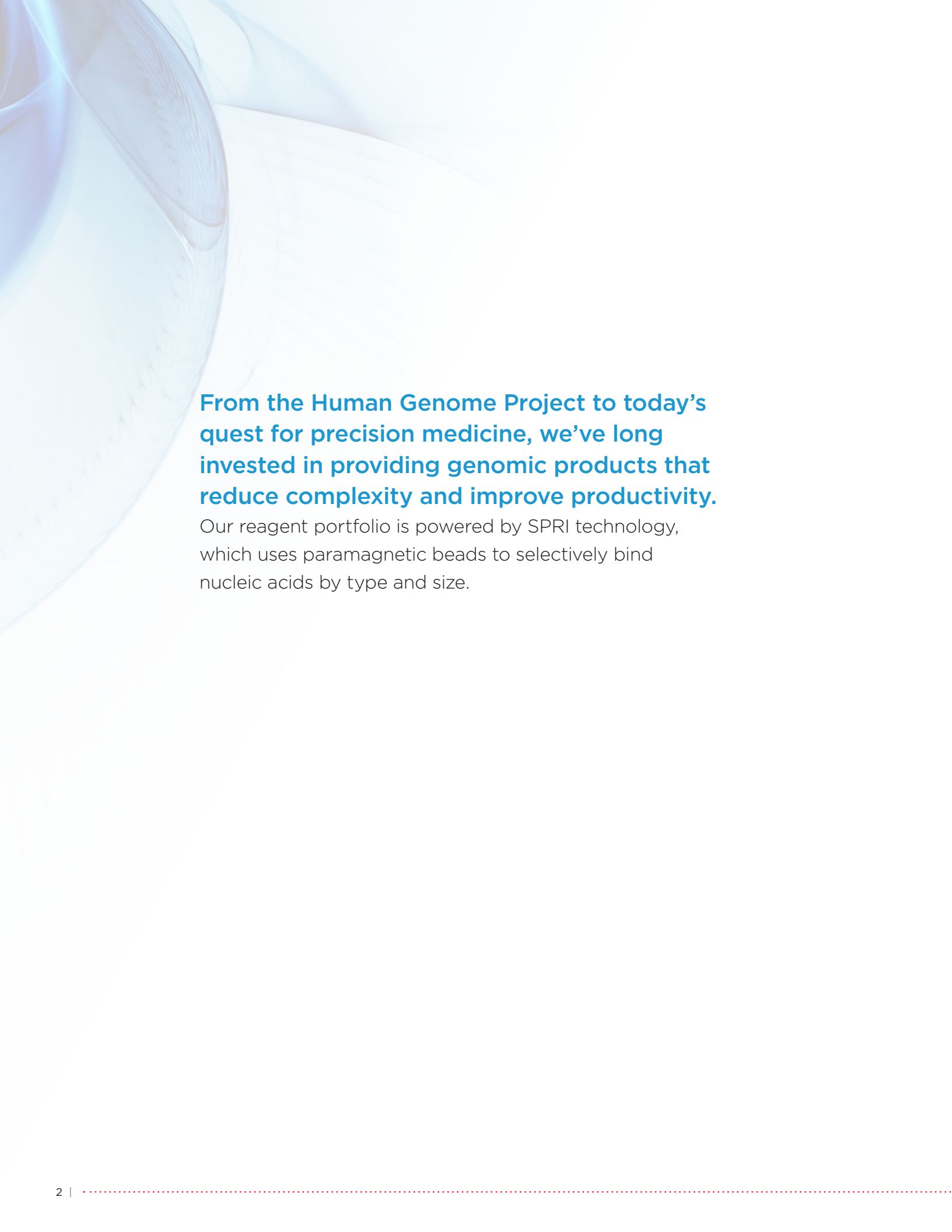
GENOMIC REAGENT SOLUTIONS

NEXT-GENERATION SEQUENCING CLEANUP & SIZE SELECTION



EMPOWERING
real discoveries.

 **BECKMAN
COULTER**
Life Sciences



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.



Accelerating Answers with Beckman Coulter Life Sciences

With your help, we can empower those seeking answers to life's important scientific and healthcare questions. And we're committed to accelerating answers.

Accelerating Answers

In the life sciences, accelerating answers requires leading-edge solutions that you can trust. By partnering with us as an OEM supplier to develop your genomic assays, you're committing to a solution that you and your customers can rely on.

Gold Standard Reagents

Our genomic reagents are the gold standard in nucleic acid purification and cleanup technology. They've helped generate research reported in over 20,000 scientific publications and are suggested for use in over 200 library preparation kits, including kits from trusted sequencing companies like Illumina®, Oxford Nanopore Technologies, and Pacific Biosciences (PacBio), among others.

Our solutions are optimized to meet the stringent needs of today's genomic applications. By adding genomic reagents from Beckman Coulter Life Sciences to your assay kit, you empower your customers to maximize the recovery, consistency and speed of their entire next-generation sequencing workflow.

Help customers get the data they need

Partner with us and give your customers the convenience of including all the required reagents and help them minimize the risk of losing important genetic data. Give your customers the gold standard and empower them to generate better results.



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

Enabling Customers to Seize More Critical Data

Loss of yield during purification and cleanup can lead to loss of discovery in research. With AMPure XP reagent, users 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 provides 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.

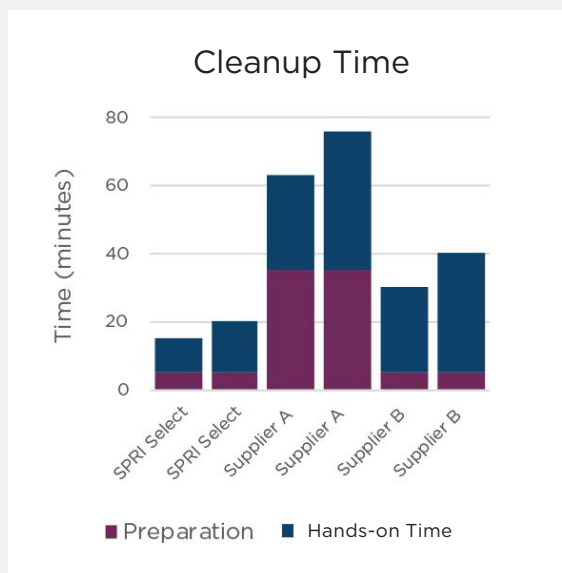


- Works with fragmented DNA
- Tunable from 150 to 800 base pairs to offer easy adjustments for specific applications and sequencers
- Predictable, consistent size selection between runs and reagent lots
- Scalable from manual to automated workflows for high throughput processing in 96-well plates
- Suggested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

There's no need to worry about finding room in the crowded freezer—users can store SPRIselect reagent at room temperature, right on their bench. And because users don't have to wait for it to warm up, they can streamline their workflow, minimize hands-on time and start 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

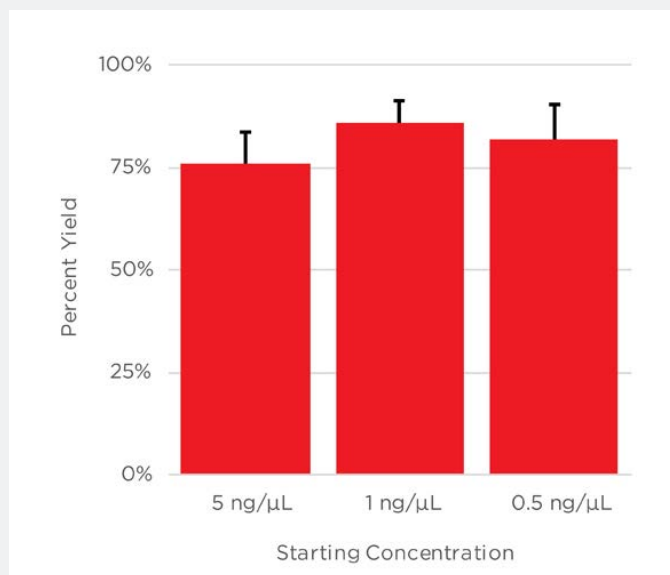
Thanks to our proprietary SPRI paramagnetic bead-based chemistry, RNAClean XP reagent enables researchers to purify RNA and cDNA from common enzymatic reactions and helps to ensure efficient recovery of their samples.

- 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



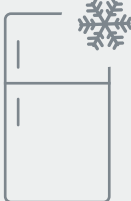





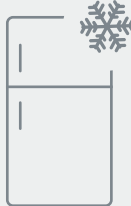
The RNAClean XP reagent doesn't use organic solvents, vacuum filtration, or centrifugation, and delivers superior nucleic acid recovery and purity for use in downstream applications.



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

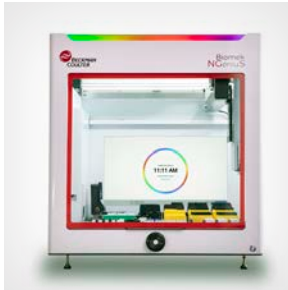
Here's a quick guide to help researchers choose the right reagent for their genomic application.

REAGENT	NUCLEIC ACID INPUT	STORAGE TEMPERATURE	KEY DIFFERENTIATOR	PART NUMBERS & VOLUMES
 AMPURE XP REAGENT	 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
 SPRISELECT REAGENT	 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
 RNACLEAN XP REAGENT	 Works with RNA and cDNA	 4°C	The only cleanup kit that has non-detectable levels of RNase.	A63987, 40 mL A66514, 450 mL

Streamlining NGS 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



Biomek NGenius Next Generation Library Prep System

- A flexible, easy-to-use liquid handler for NGS library preparation
- Processes up to 24 samples at a time
- Diverse menu of demonstrated applications

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 μg
- 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

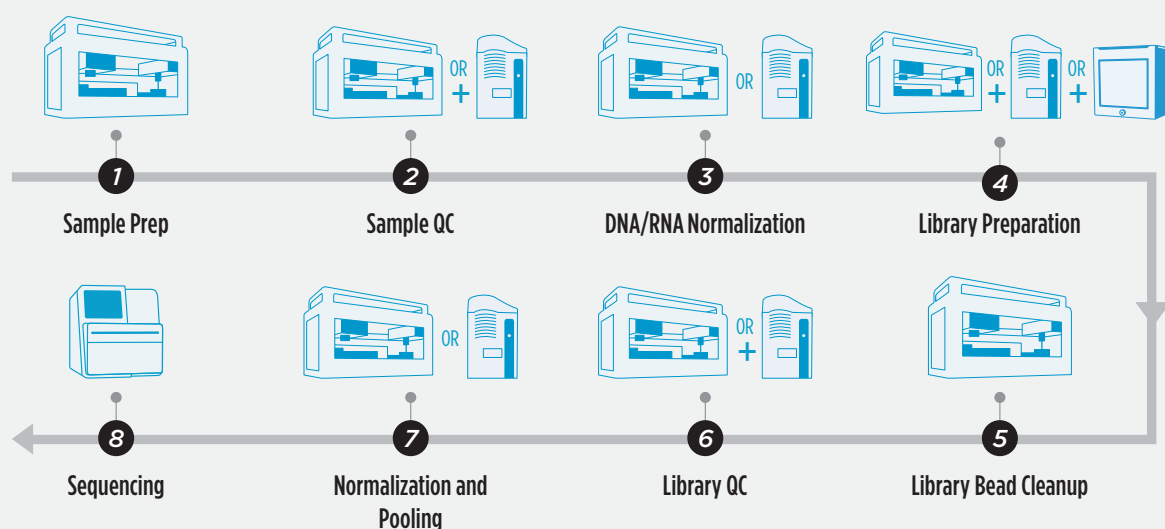
Acoustic and tip-based technologies for
low- to high-volume transfers

Researchers can 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 labs::

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

Generating Accurate Data Faster by Automating NGS Workflows



LEGEND



Biomek Automated Workstation



Echo Acoustic Liquid Handler



Biomek NGenius Next Generation Library Prep System



Our Reagents Can Help Researchers Get the Data They 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



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

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