



# Accelerating Answers for Synthetic Biology Workflows

To help build a better tomorrow

ACCELERATING  
*answers*

 **BECKMAN  
COULTER**  
*Life Sciences*

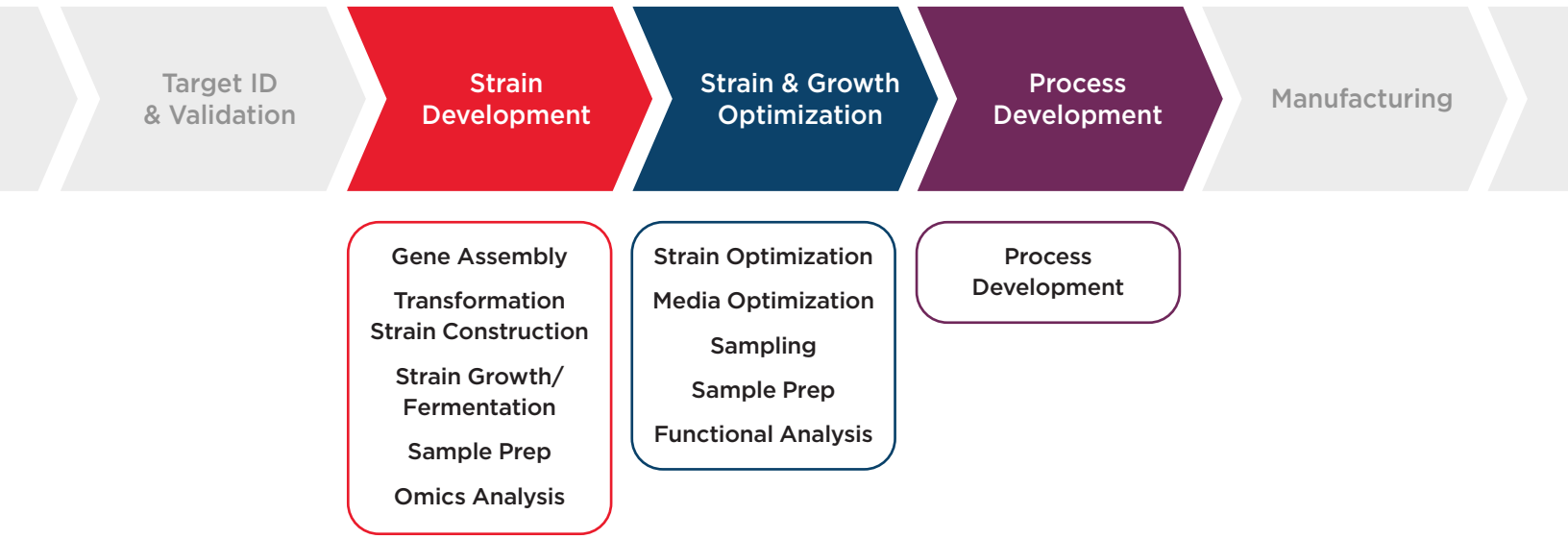
# Adapting, Building and Evolving Together

Does your research leverage engineering principles to design and construct biological systems? Are you looking to address global challenges in:

-  Health
-  Agriculture
-  Sustainability
-  Development of novel materials

**If so, we can help.**

Our technologies can optimize your workflow design, streamline complex processes, and provide an abundance of insightful data to accelerate and bring efficiencies to your synthetic biology research.



At the heart of synthetic biology workflows is the Design, Build, Test, Learn cycle, a framework for rapid strain development powered by advanced automation technologies. On the next few pages you will discover how our products power this iterative process and optimize your synthetic biology research workflows.

# Our Product Solutions for Synthetic Biology Workflows

● Strain Development   ● Strain Growth & Optimization   ● Process Development

## ECHO 525 Acoustic Liquid Handler



- The Echo Acoustic Liquid Handler is an essential tool for synthetic biology applications such as combinatorial, miniaturized isothermal DNA assemblies, PCR reaction setups, and cell-free protein synthesis reactions
- Echo technology uses sound energy to enable highly accurate, fully automated, non-contact dispensing of fluids in nL to  $\mu$ L volumes
- Reduced reaction volumes enable significant cost-savings while improving assembly efficiency
- High-throughput “any-well-to-any-well” transfers enable 10x faster assemblies
- Contact-free transfers ensure improved data quality with lower risk of cross-contamination



## Biomek i-Series Automated Workstations



- High-throughput automated sample preparation provides consistency, efficiency and scalability for synbio workflows
- Automated plasmid DNA preparation, including extraction and purification, increases sequencing success rate by ensuring high-quality DNA
- Integrated colony picking modules can automate colony selection and culturing, streamlining workflows from transformation to clone verification
- Scale your throughput using the power of SAMI software\*\* for scheduling and process management
- Reduce risk of errors and build your team’s confidence in automation with DeckOptix Final Check on-deck cameras



## Biomek Echo One HT Genomics Bundled Solution



- A comprehensive platform for automating applications such as:
  - High-throughput DNA assembly
  - Plasmid verification
  - Next-generation sequencing sample prep
  - Cell-free protein synthesis workflows
- Enables reduction of NGS library preparation costs by miniaturizing the reaction volumes to 1/5th-1/20th of the standard\*
- Expand the platform to add additional capabilities (readers, thermal cyclers) as needs evolve



## BioLector XT Microbioreactor



- Designed for advanced characterization, monitoring and optimization of microbial cultivations
- Enables high-throughput screening and real-time monitoring of up to 48 parallel experiments simultaneously, with evaluation of:
  - Biomass
  - Fluorescence
  - pH
  - Dissolved oxygen
  - Other key cultivation parameters
- Scalability facilitates process optimization from micro-scale to larger volumes, resulting in cost and time savings
- Automated data collection minimizes human error and labor costs, while comprehensive insights improve process control and reproducibility



## BioLector XT Microbioreactor & Biomek i5 Liquid Handler Integration



- Automatically draw samples and add media, inducer solutions or inoculates to culture wells triggered by experiment time or online signals
- Incorporate cultivation modes with online triggers (real-time signals from BioLector XT Microbioreactor), with continuous operation 24/7
- Transform your workflow, get reproducible data and scalable results making it fast and easy to bring products to market



## Multisizer 4e Coulter Counter



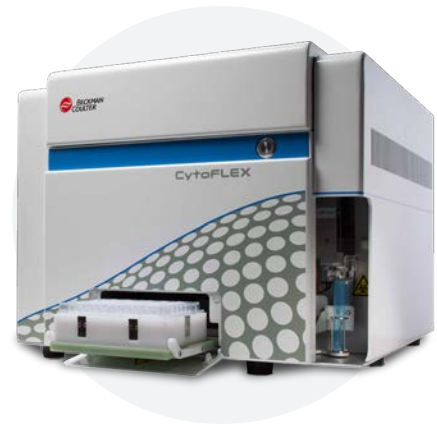
- Provides accurate cell/particle counts, determines bacterial concentrations, and generates size distribution profiles
- Broad measurement range (0.2- 1,600  $\mu\text{m}$ ) accommodates suspension volumes of 3-400 mL, and uses aperture tubes ranging from 10-2,000  $\mu\text{m}$
- Customizable parameters include user-defined size ranges and dilutions for tailored analyses



## CytoFLEX Flow Cytometer



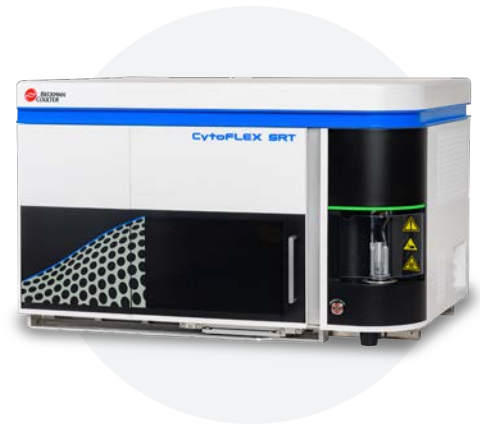
- Advanced optical design enables detection of
  - Extracellular vesicles
  - Viruses
  - Bacteria
  - Yeast
  - Mammalian cells
- Quickly measure fluorescence from GFP, RFP, YFP, etc., to screen thousands/millions of engineered cells
- Detects multiple colors at once, enabling simultaneous analysis of genes linked to different fluorescent reporters
- CytExpert software for data acquisition is easy to learn and freely available for data analysis on other workstations
- Add channels after installation with easy field upgrades



## CytoFLEX SRT Benchtop Cell Sorter



- CytoFLEX SRT physically collects cells based on fluorescence, useful in directed evolution and synthetic circuit optimization.
- Up to 15 fluorescent detectors can be activated
- Capable of complex sort logic, including 4-way sorting, Mixed Mode sorting, and the ability to catch aborts and preserve precious cells



## Allegra V-15R Benchtop Centrifuge



- 10 rotor configurations and 50 programmable runs bring versatility to any lab
- This refrigerated centrifuge spins samples faster and longer without overheating samples
- Compact footprint is up to 28% smaller than comparable models



## Optima AUC Analytical Ultracentrifuge



- Multiwavelength absorbance and Rayleigh interference detection systems enable a broad range of applications including proteins, viruses and more
- Experiments conducted under native state, matrix-free conditions to enable deeper insights
- User-friendly touchscreen display and remote monitoring capabilities make it easy to use



## Avanti JXN-26 Series Centrifuges



- Ideal for supporting multiple protocols in shared labs using data and real-time running graphs
- Compatible with an extensive rotor library so it's adaptable for a variety of applications
- Easy-to-use software with delay start, and run times to 99:59, Hold, and  $\omega 2t$  integrator for applications requiring precise reproducibility



## HarvestLine System



- Single-use liners eliminate a need to clean/sterilize bottles and enable faster sample recovery
- One-way seal/valve reduces liquid spillage to minimize exposure to biologics
- Flexible polyurethane material enables compact storage when freezing/transporting



## CosMCPrep Plasmid Prep Kit



- Single protocol to purify a variety of high- and low-copy number plasmids
- Requires less hands-on time and fewer pipetting steps compared to column-based kits
- Easily automated for high-throughput workflows using a Biomek automated workstation to produce high-quality templates



## SPRIselect Bead-Based Reagent



- Works with fragmented DNA
- Tunable from 150-800 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 40+ library prep kits



## GenFind V3 Genomic DNA Extraction Kit



- Extraction and purification of gDNA from bacteria, fungi and fresh/frozen mammalian tissue
- High recovery of quality DNA for downstream applications, such as NGS library construction and PCR



## AMPure XP Bead-Based Reagent



- A “gold standard” in bead-based NGS cleanup and size selection
- High recovery of amplicons > 100 bp
- Efficient removal of:
  - Unincorporated dNTPs
  - Primers
  - Primer dimers
  - Salts
  - Other contaminants
- Maximizes recovery, consistency and speed to facilitate the entire NGS workflow
- Meets stringent needs of today’s genomic applications and minimizes risk of losing important genetic information
- Suggested in 200+ library prep kits from some of the industry’s most trusted sequencing companies



Scan the QR code or click [here](#) to learn more about our workflow solutions.

# We want to accelerate answers that can help build a better world

We're is a global leader in the design, development and manufacture of innovative solutions for life sciences research. Our history dates back to 1935, and our mission today is still to provide tools and resources that accelerate answers and enable customers to push the boundaries of their scientific research.

## Commitment to Sustainability

We view sustainability as a fundamental responsibility and strategic priority touching every aspect of our business. By providing reliable and efficient instruments, we support multiple industries promoting environmental sustainability while building a better tomorrow.

[Read more about our history.](#)



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2024-GBL-EN-106307-v1

