

Biomek 4000 Workstation CleanSEQ

Technical Information Bulletin

Reproducible and Efficient Automation of DTR Purification Using the Biomek 4000 Workstation and CleanSEQ

Authors...

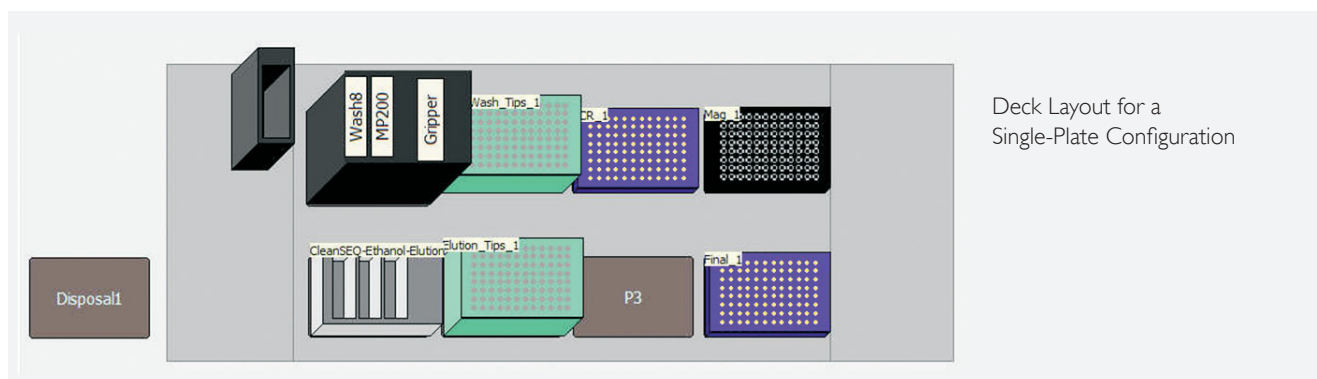
The Agencourt CleanSEQ® application for the Biomek 4000 Laboratory Automation Workstation is a rapid, high performance dye-terminator removal method utilizing Solid Phase Reversible Immobilization (SPRI) paramagnetic bead-based technology. The Agencourt CleanSEQ method follows a simple three-step protocol that requires no centrifugation or filtration and efficiently purifies sequencing products to deliver exceptional quality sequencing data.

The combination of the Biomek 4000 Workstation and the CleanSEQ purification system improves reproducibility, reduces the opportunity for human error; and cuts labor and reagent costs.

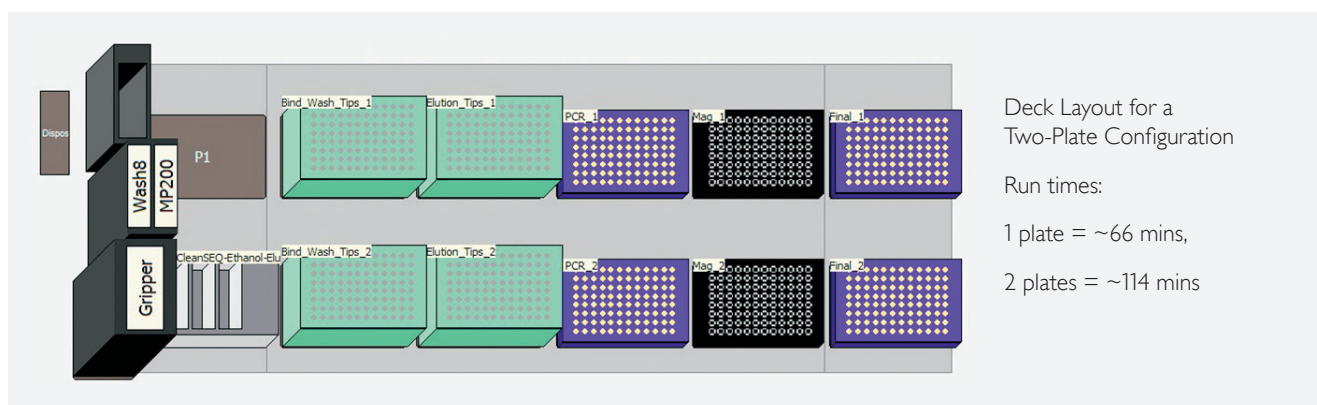
Flexible Purification

The CleanSEQ Application on the Biomek 4000 Workstation is a validated and fully supported method. It is supplemented with software that provides a graphical user interface (GUI) and additional software tools and utilities. Ease of use and an informative and feature-rich GUI provides optimal outcomes for all users of the method. The method's scalability and automation-friendly format also allows for a streamlined sample process.

The Agencourt CleanSEQ application can process one or two 96-well plates simultaneously, and has the capability of processing partial sample plates specified by column.



Deck Layout for a Single-Plate Configuration



Deck Layout for a Two-Plate Configuration

Run times:

1 plate = ~66 mins,

2 plates = ~114 mins

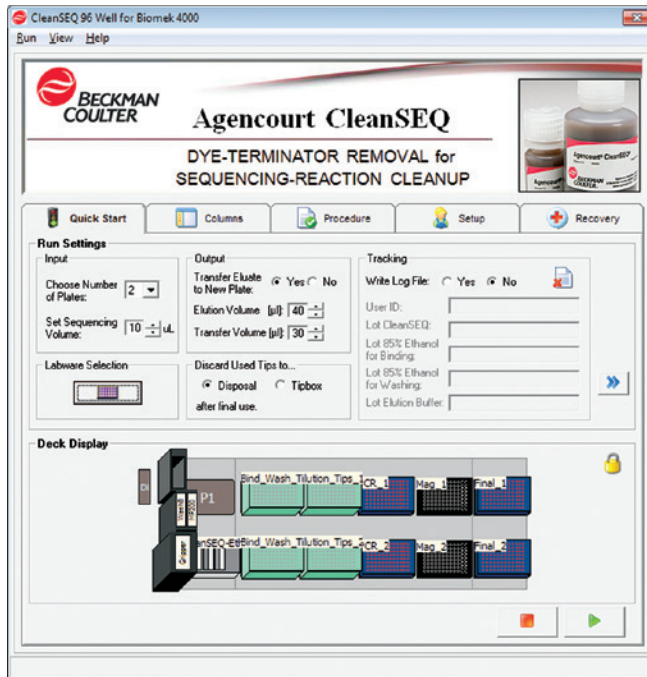
Discovery
in motion.

 **BECKMAN
COULTER**

Life Sciences

Graphical User Interface (GUI)

The method GUI includes numerous options and protocol selections and is customizable by the user. It allows the user to define the inputs and outputs for each run, and supports a broad range of operating parameters for a wide range of plate types.



GUI Quick Start Tab

GUI Features

- Selection of the number of plates to process with the input and output volumes
- LIMS tracking of run operator and CleanSEQ reagent lot numbers
- Option to enable archiving and retrieval of GUI parameters and run specific information to and from file storage
- Labware selection for input PCR plate and final plate
- Processing of any combination of individual columns within plate
- Capability to specify or modify CleanSEQ protocol and operating parameters
- Password protection option to lock method protocol inputs
- Guide to setup instrument with labware and reagents
- Run setup wizard including a reagent volume calculator to determine appropriate volumes of reagents
- Provides detailed instructions to setup the deck with labware and reagents
- Effective method recovery from an interrupted run at any step

Method Recovery – Recovering from an Interrupted Method:

The CleanSEQ method provides ways to recover or restart the method efficiently

The CleanSEQ method has the capability for method recovery and restarting of the method from any point within the protocol. The method recovery feature allows the user to see exactly where the CleanSEQ method was interrupted to more efficiently recover it. It also visually indicates which steps were completed for each PCR plate and individual column for ease of use.



GUI Method Recovery Tab

Superior Sequencing Data

The CleanSEQ reagent system has been automated on the Biomek 4000 Workstation to provide rapid DTR purification with high signal and purity. It is more reproducible than alternative clean-up methods due to automation and low product loss and enables rapid, cost effective sequencing.

Produces superior sequencing data that makes accurate base calling easier

High Quality Sequencing Results

- Efficient elimination of sequencing reaction contaminants
- High Average Signal Strength
- High Quality Trace Scores
- High Phred Scores
- High QV20+
- High Contiguous Read Length (CRL)

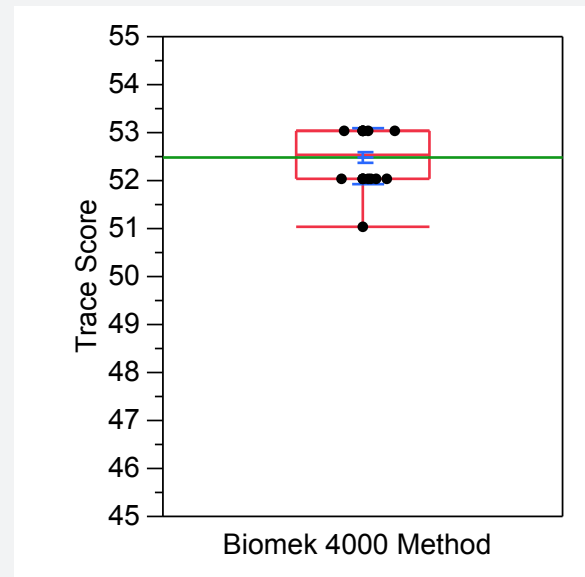
Signal Intensity

High Average Signal:

Agencourt CleanSEQ's unique purification method enables quality sequencing results with high average signal intensities. Higher average signal intensities allow a wider range of input sample types to be processed without potential loss of resolution and pass rates. Retention of higher average fluorescence signals maximizes sequencing resolution, pass rates and quality scores.

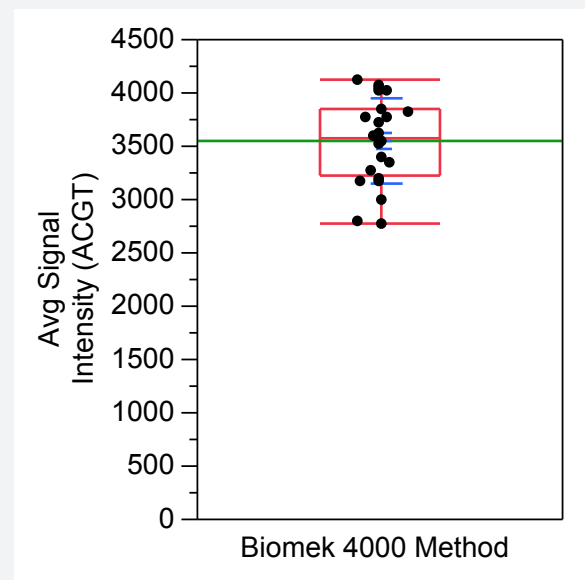
The ability of Agencourt CleanSEQ to retain higher average signal intensities, even with a 1/32x BigDye dilution (0.25 µl), enables the processing of a wider variety of input sample quality without the loss of final data quality.

Trace Score:



pGEM samples sequenced at 1/32x BigDye v3.1 (0.25 µl per sequencing reaction) 24 samples

Average Signal Intensity:



Method Requirements (Required Tools, ALPs, Magnets, Reservoirs, and Consumables)

Type	Qty	Description	Part No.	Notes
Tools	1	Gripper Tool	987371	
	1	Eight-Channel Wash Tool	987370	
	1	MP200 Eight-Tip Pipette Tool	986146	
ALPs	1	Liquid Waste ALP	B21398	
	1	Disposal ALP	609751	
	5	Labware Holder	609120	
	2	Tip Rack Holder	391910	
	1	Gripper Tool Rack	609641	Required for single-plate configuration only
	1	Wash Unit	609056	With or without a 6-Port Valve
	1	Off Deck Gripper Rack	B21400	Required for two-plate configuration only
	1	Off Deck Tool Rack Mount	B21399	Required for two-plate configuration only
	1	Left Side Module	987264	Required for two-plate configuration only
1	Right Side Module	987263	Required for two-plate configuration only	
Magnet Plate	1	Agencourt SPRIPlate 96R – Ring Super Magnet Plate	A32782	
Reservoirs	1	Reservoir Frame	372795	Reusable
	3	Quarter Reservoir	372790	Reusable
	1	Bottle (off deck)	N/A	Associated with the Wash Tool (ethanol)
Consumables	2	Biomek AP96 P250 Tipboxes	717251	Case of 10 racks
	2	96-Well PCR Plate	N/A	ABGene 1400 or equivalent

Ordering Information

Part Number	Description
XXXXXX	Biomek 4000 CleanSEQ Application
XXXXXX	Agencourt CleanSEQ Reagent

For more information, please contact your local Beckman Coulter representative or visit our Biomek 4000 Workstation website:

www.biomek4k.com



*The CleanSEQ Application is not intended or validated for use in the diagnosis of disease or other conditions, and thus has "No Designation" in regards to its intended use.

All trademarks are the property of their respective owners.

Beckman Coulter, the stylized logo, SPRI, Agencourt, AMPure, Biomek and CleanSEQ are trademarks of Beckman Coulter, Inc. and are registered with the USPTO.

For Beckman Coulter's worldwide office locations and phone numbers, please visit www.beckmancoulter.com/contact

B2013-14243

© 2013 Beckman Coulter, Inc.

PRINTED IN U.S.A.