

ABL

Advanced
Biological
Laboratories



CE

DeepChek Pipetting Robot Titanium

Automated Liquid Handling Workstation



Providing Lab Efficiency for Optimized
Patient Monitoring

Research Use Only - Proprietary, ABL S.A.

Proprietary, ABL S.A. - May2021

Please contact the ABL support team to request more information & registration status of the above mentioned products for your respective territories.

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<http://www.ablsa.com>



Typical Workflow

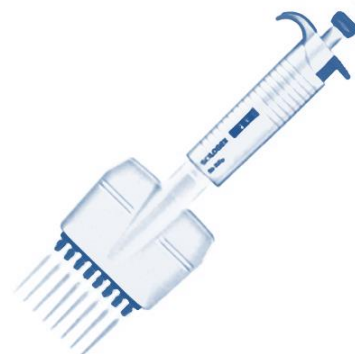
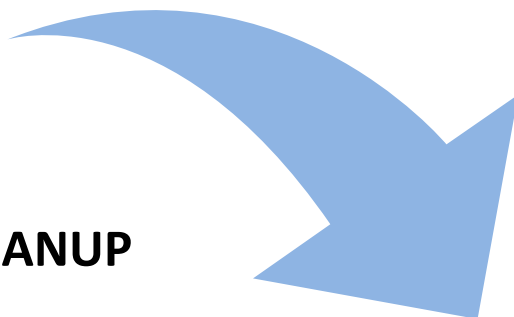


UPSTREAM APPLICATIONS

- PCR (DeepChek®-SingleRound Assays, UltraGene® Assays...)
- NGS Library Prep (DeepChek® Library Prep Assays, ...)

PCR

PCR CLEANUP



DOWNSTREAM APPLICATIONS

- Sequencing
 - Next generation sequencing (NGS)
 - Sanger sequencing
- Genotyping (SNP) fragment analysis
- Cloning

Applications

- Automation for PCR reaction (1 to 96 samples in 96-well plates with any combination of Master Mix, Primers, and Samples)
- Full automation for beads purification
- Automation for Library Preparation for Next-Generation Sequencing
- Normalizing of samples
- Dilution series
- Multiple Mix preparation

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Workflows Overview



LIBRARY PREPARATION



Fragmentation
plate set-up



Fragmentation
reaction



End-repair & A-tailing
plate set-up



End-repair & A-
tailing reaction



Adaptor ligation set-up &
reaction on-deck

AMPLIFICATION



SPRI clean-up
& PCR mix distribution



PCR

LIBRARY CLEAN-UP



Centrifuge



NORMALIZATION



Quantification



Normalization and Pooling
in a single tube



Automated protocol is
complete

SEQUENCING



Proceed to sequencing on
Illumina iSeq-100

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Key Benefits



REPRODUCIBILITY

Provides run-to-run consistency and reproducibility, thereby enabling verifiable science

EASE OF USE

Automated plate prep is ergonomic and requires minimal intervention from the researchers in the lab.

COMPATIBILITY

Output material is ready to run on a BioAnalyzer® or feed into downstream procedures in your lab or a core facility.

FLEXIBILITY

Pipetting script can be customized to match the required volumes, number of washes in your polymerase chain reaction (PCR) cleanup procedure.

REPRODUCIBILITY

Error-prone, manual steps are automated for greater confidence in performance



Performances



- Better reproducibility
- Less manual preparation (more walk-away time)
- Complex, difficult procedures without errors
- Fully automated pipetting
- Automates technically challenging tasks
- 96-well format allows multiple samples to be processed at once
- Customers can walk away during the tedious procedure while maintaining high quality sample integrity

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Workflows Comparison



NGS Library Preparation
for a run of 24 samples

Normalization

Purification

MasterMix Distribution

DeepChek Pipetting Titanium Robot



- Handling time: **1min**
- Robot: 10min

- Handling time: **2min**
- Robot: 30min

- Handling time: **1min**
- Robot: **2min**

Manual Pipetting



- Handling time: **20min**

- Handling time: **25min**

- Handling time: **10min**

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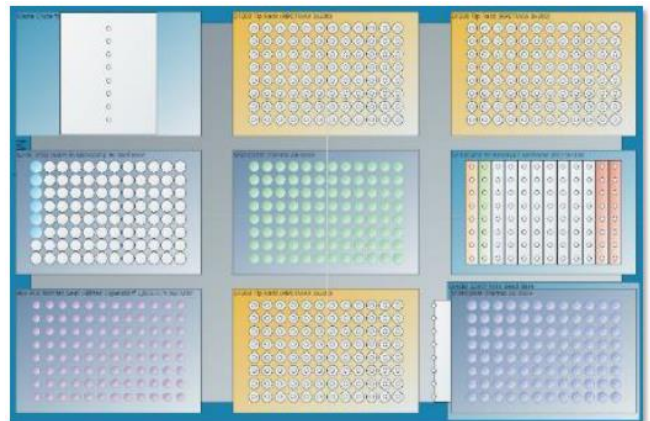
TYPICAL APPLICATION WORKFLOW



PCR PURIFICATION FOR NGS LIBRARY PREPARATION (DeepChek® Library Prep Assay,...)

WALK AWAY AUTOMATION

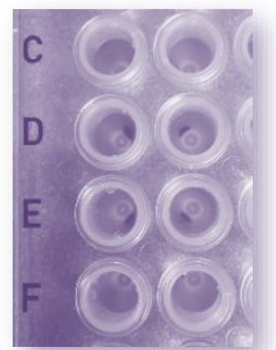
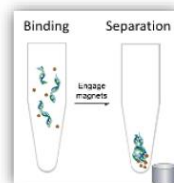
1. Mix beads (in reservoir)
2. Add beads to the samples
3. Pull down beads
4. Remove supernatant
5. Wash the beads (80% EtOH)
6. Air dry beads to remove EtOH
7. Elute sample from beads
8. Transfer eluent to new plate



MAGNETIC BEAD RACK

- Automatically toggles between disengaged and engaged magnet positions.
- No user intervention is required to pellet or resuspend the magnetic beads during the run.

Library Wells to be Processed	A1:H12
Sample Transfer Volume	40
AMPure XP Beads Transfer Volume	24
Incubation Time	5
Wash Steps	2
Wash Transfer Volume	200
Air Dry Time	15
Elution Buffer Tubes to use	1:8
Elution Buffer Transfer Volume	42
Elute library to new plate	True
Final Elution Transfer Volume	20



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Technical

Specifications



Communication

- USB

Connections

- Three USB host ports and one USB device port
- Two inputs (contact closure, TTL), two relay outputs, and one switched +12V DC 1A output

Control

- Touchscreen tablet, laptop, or desktop computer control via USB and TRILUTION® micro software

Dimensions (W x D x H)

- 50.8 x 64.3 x 49.5 cm (20 x 25.3 x 19.5 in)
- Weight: 24.9 kg (55 lbs.)

Volumetric Specification for Transfers

Maximum Permissible Errors

Pipette Head	Volume of Distilled Water	Systematic Error (µL)	Random Error (µL)	Systematic Error (%)	Random Error (%)
MAX8x20	1 µL	±0.08	≤0.05	8	5
	10 µL	±0.15	≤0.10	1.5	1
	20 µL	±0.25	≤0.12	1.25	0.6
MAX8x200	20 µL	±0.50	≤0.16	2.5	0.8
	100 µL	±1.00	≤0.30	1	0.3
	200 µL	±2.00	≤0.50	1	0.25

Positioning Performance

Machine Accuracy (without tips) in XYZ = +/-0.2 mm (0.008")

System Accuracy (with current tips) in XYZ = +/-0.9 mm (0.035")

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Product References



DeepChek Pipetting Robot Titanium **CE**

- DeepChek Pipetting Robot (without consumables).....I-18-PIP2

