

 **EYS**<sup>®</sup> Medikal &  
Laboratuvar  
Projeleri



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# AneuSure®

For rapid detection of numerical chromosomal aneuploidies for chromosomes 21, 18, 13, X and Y using QF-PCR technology.



AneuSure® Kit consists of 26 markers. The STR markers are distributed across autosomal chromosomes 21, 18 and 13 and sex chromosomes X & Y. The segmental duplication 7X marker is included in the kit for the differentiation of X chromosome monosomy from homozygosity (i.e. it quantifies

the chromosome X for more accurate detection of Turner syndrome. AneuSure markers have been validated with extensive testing using Applied Biosystems™ 3500/3500xL and 3130/3130xL platforms for detection and analysis.

## Multiplex PCR - amplification of 26 markers in a single reaction

AneuSure® markers cover the whole length of 13, 18, 21, X, and Y chromosomes. Markers heterozygosity and SNP in their primer sites were tested on several hundred DNA samples.

Table 1: Number of markers specific to each chromosome

	<b>Chromosome</b>	<b>No.</b>
1	X Chromosome	6
2	Y Chromosome	2
3	X/Y	2
4	Chromosome 13	5
5	Chromosome 18	5
6	Chromosome 21	6

## Accurate detection of Turner Syndrome

7X marker is used for reliable detection of Turner syndrome which is a segmental duplication region shared between the X and 7 chromosomes. The heights of these peaks represent the copy number of each chromosome. The same heights show two copies of the X and two copies of the chromosome 7. We cannot have simultaneous monosomies for chromosomes X and 7 because a fetus with monosomy of chromosome 7 will aborts during the first month of pregnancy. The interpretation is given below:

Table 2: Interpretation scheme for Turner Syndrome

	Normal female	Normal male	Turner
Height ratio of 7X marker(7/X)	1:1	2:1	2:1
X-STR markers	Homozygote or heterozygote	Hemizygote	Hemizygote
Y-STR markers	Not detected	Detected	Not detected

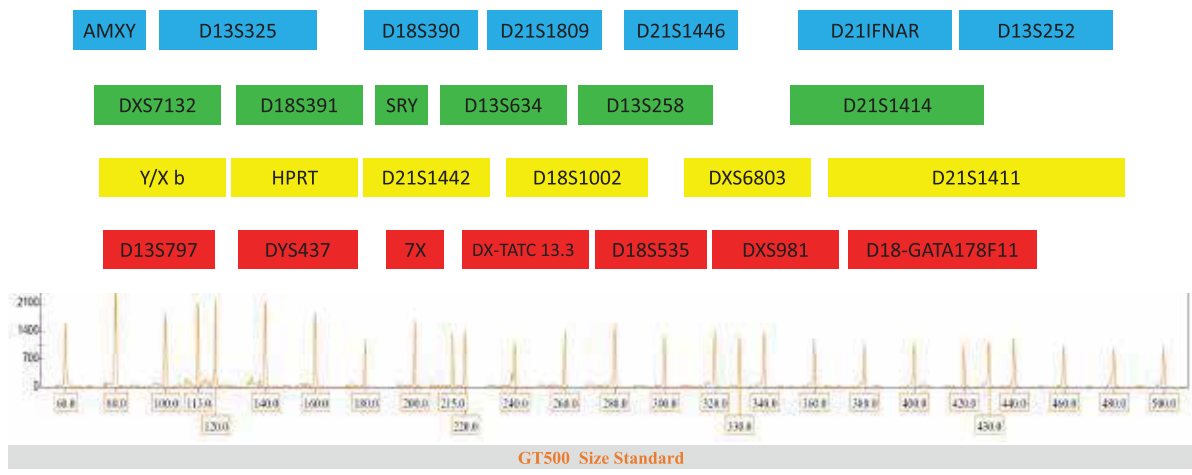


Figure 13: AneuSure® Markers showing their respective fluorescent dyes and size ranges

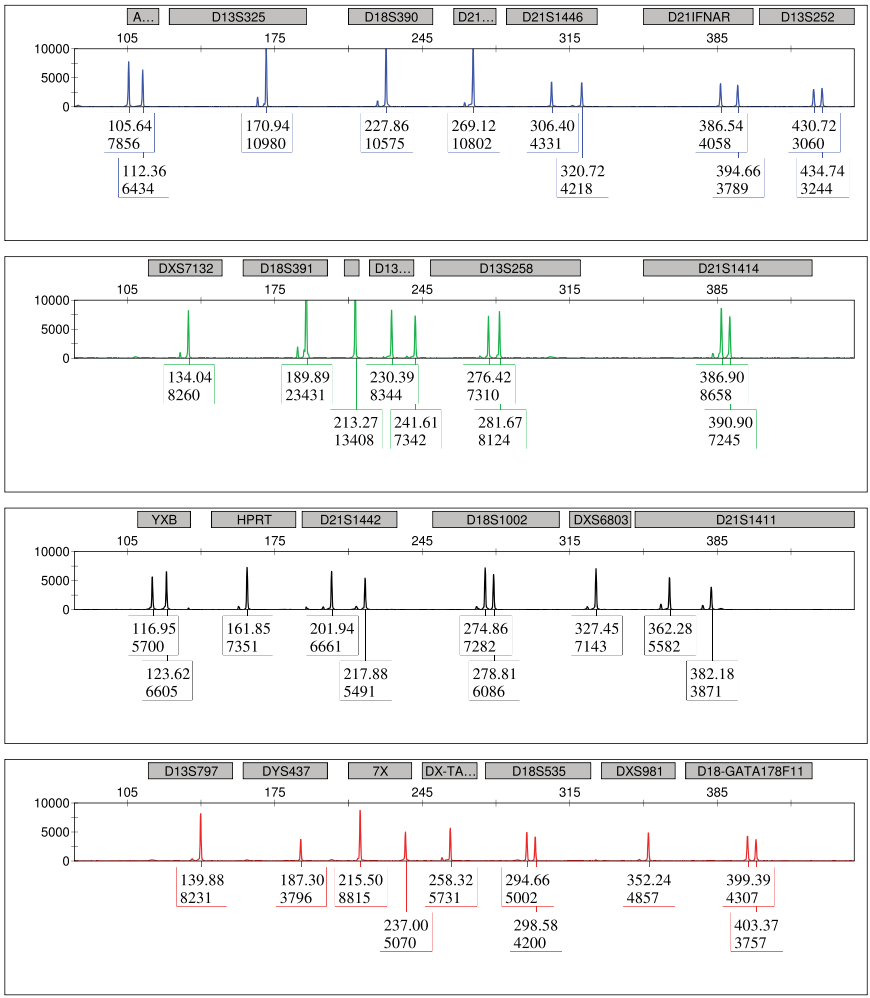


Figure 14: A male sample with DNA concentration of 1ng, amplified using AneuSure® Kit and analyzed on Applied Biosystem™ 3500xL Genetic Analyzer.

# AZFScreen

STS (Sequence-Tagged Sites) based kit for rapid and accurate detection of Y chromosome microdeletions.

The kit includes 16 markers (13 STS, 2 SD (Segmental Duplication) and 1 STR (Short Tandem Repeat)). AZFScreen kit is developed for the detection of Y chromosome microdeletions – a frequent genetic cause of infertility in men. It can also detect Klinefelter syndrome, another cause of infertility in men.

AZFScreen markers have been validated with extensive testing using Applied Biosystems™ 3500/3500xL and 3130/3130xL platforms for detection and analysis.

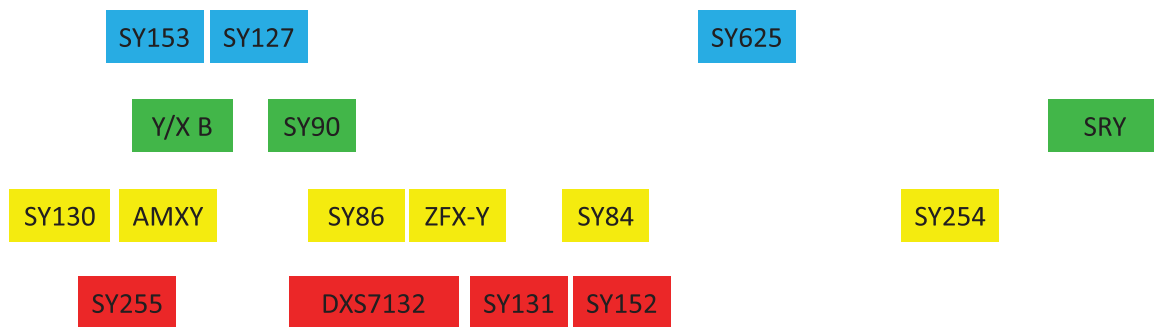
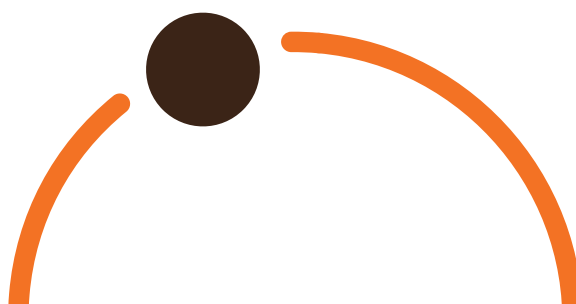


Figure 18: AZFScreen Markers showing their respective fluorescent dyes and size ranges



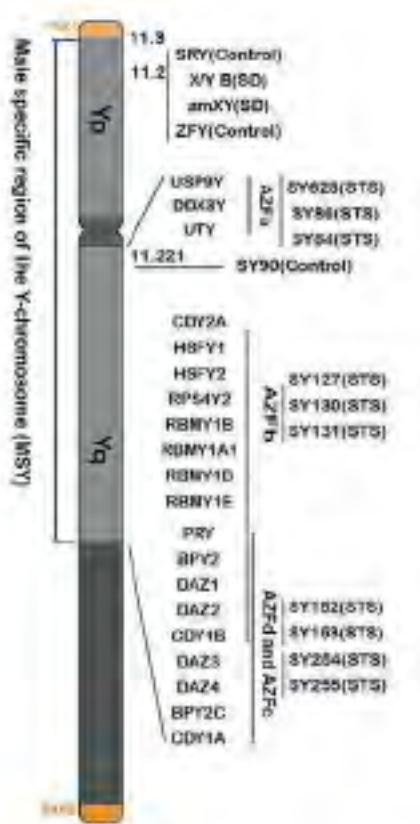


Figure 19: AZFScreen markers' location on Y chromosome

## Why is this test important?

Male infertility contributes to about 20-30% of these cases, out of which 5-10% are caused by Y chromosome microdeletions.

In addition to Y chromosome microdeletion detection, the kit also detects Klinefelter Syndrome, another cause of male infertility by addition of AMXY, Y/X B and DXS7132 STR marker into the kit.

## Science behind it

Microdeletions in the long arm of the Y chromosome can cause spermatogenic failure. The critical region for spermatogenesis is the azoospermia factor (AZF), the deletion of which causes azoospermia. Four loci, AZFa, AZFb, AZFc and AZFd required for normal spermatogenesis are located in the AZF regions. Diagnosing the cause of azoospermia is an initial and important step in the treatment process for infertile men.

## Key Features

High level of sensitivity to as low as 1ng of input DNA

AZFScreen can successfully amplify low amounts of DNA, we recommend optimal range from 1ng to 5ng of input DNA in the reaction to achieve clean and clear ratio in the sample profile.

Accurate detection of Microdeletion and Y chromosome STR loci

Samples to results in a day

AZFScreen Kit comes with easy to use reagents, ~90 minutes of hands on time for a lab



**40K**  
partitions

High resolution

Samples are subdivided into more than 40,000 partitions per reaction. Single molecule analysis of these partitions provide higher sensitivity and better accuracy for quantification of DNA/RNA over a wider dynamic range of concentrations.

**6**

detection channels

High multiplex

Absolute quantification of up to 6 targets can be achieved without the need for references and standards. Better quality data can now be attained using fewer reactions and at lower costs. It is now possible to perform high multiplexed digital PCR.

**96**

reactions

High throughput

Sample throughput is not compromised. Run up to 96 reactions at once to analyze hundreds of different targets in a single digital PCR run while generating millions of data points. Such performance opens up more applications for digital PCR like never before.

CLARITY<sup>plus</sup>™  
Digital PCR System



## TUBE-STRIPS

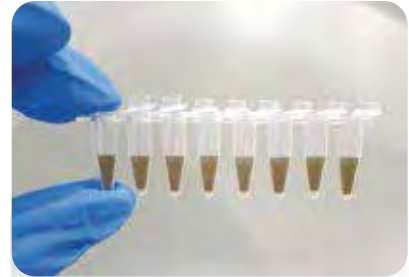
The tube-strips are the workhorse of the entire system. These are no ordinary tube-strips. Embedded inside each tube is a high density chip. When the sample is added inside each tube, it gets delivered over the top surface of the chip. Capillary forces then draw the sample into the chip, resulting in the sample being rapidly subdivided into more than 40,000 partitions per chip. Up to 8 samples can be loaded in a single tube-strip. There is no complex microfluidics involved. Analysis can be done on a single chip with 40,000 partitions, or several chips can be combined to yield more than 320,000 partitions in each tube-strip! The partitions remained inside the tube throughout the digital PCR process. Such incredible performance and unprecedented flexibility

Side view of a tube with the chip embedded within. Each chip can yield more than 40,000 partitions

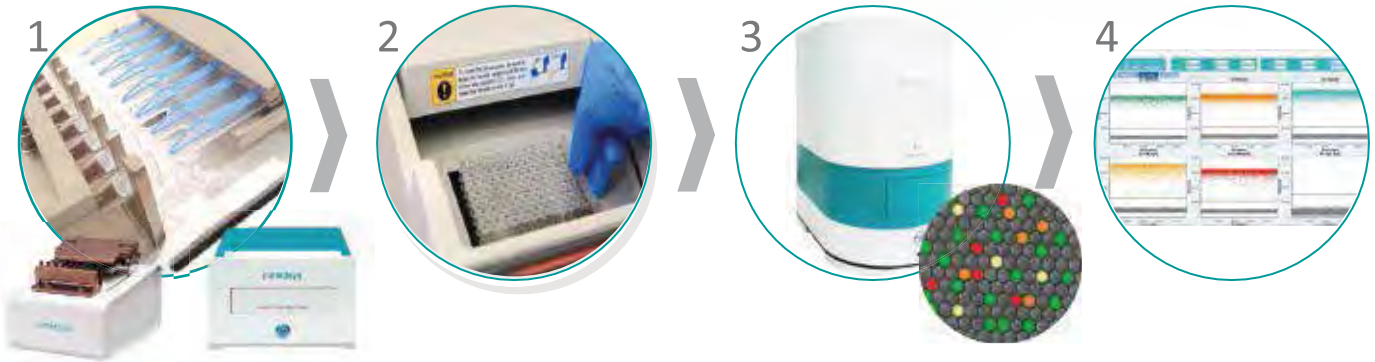


### Features

- More than 40,000 partitions per chip, or 320,000 per strip
- Stable partitions
- Minimal sample loss
- Closed tube



## WORKFLOW



### Load and partition

Using the Auto Loader, 8 samples at a time are loaded and pushed into the chips. Each is then subdivided into more than 40,000 high density partitions. There is minimal sample loss and no dead volume.

### Seal

The Sealing Enhancer increases the separation between adjacent partitions. Addition of the Sealing Fluid seals and discretizes the partitions.

### Thermal cycle

Tube-strips are placed onto a deep 96-well thermal cycler for amplification. Up to 12 tube-strips (or 96 reactions) can be run each time. There is also the flexibility to run fewer strips.

### Detect

After amplification, tube-strips are placed into the Reader for endpoint signal readout. Multiplexed analysis is achieved with the 6 detection channels that can detect several targets in each chip.

### Quantify

Powered by AI, the software uses a proprietary method to identify every single partition from each chip. Following that, it classifies each partition into positive and negative based on their intensities. With that information and using Poisson statistics, highly multiplex absolute quantification is achieved on the Clarity Plus.

# Sequel Ii System Sequencing evolved.

## Unlock Your Next Great Discovery with HiFi Sequencing and the Sequel® Ii System

Based on the proven performance of the award-winning Sequel II System, the Sequel Ii System delivers:

- Direct access to the only highly accurate long reads: PacBio® HiFi reads
- Deeper biological insights, less data processing, and faster results thanks to the unmatched clarity of HiFi reads
- Reliable and affordable high-throughput sequencing for a broad range of applications



### Key Benefits of the Sequel Ii System:

- ✓ **Better Data** for superior results with lower coverage, from a single technology
- ✓ **Less Time** spent on data processing and analysis for faster answers
- ✓ **Cost Savings** at every step of your sequencing pipeline

Overall Costs for Sequencing a Human Genome



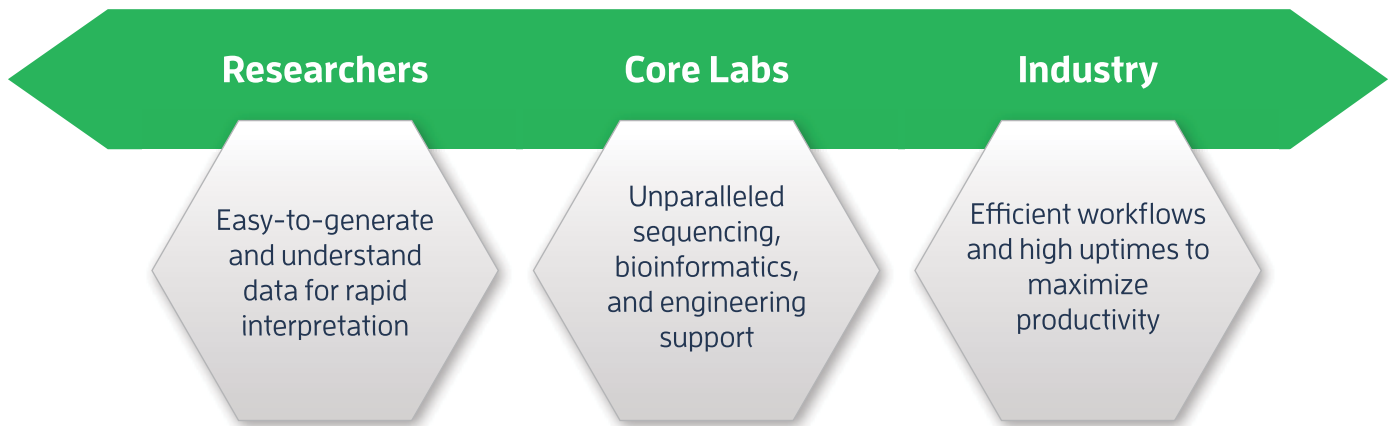
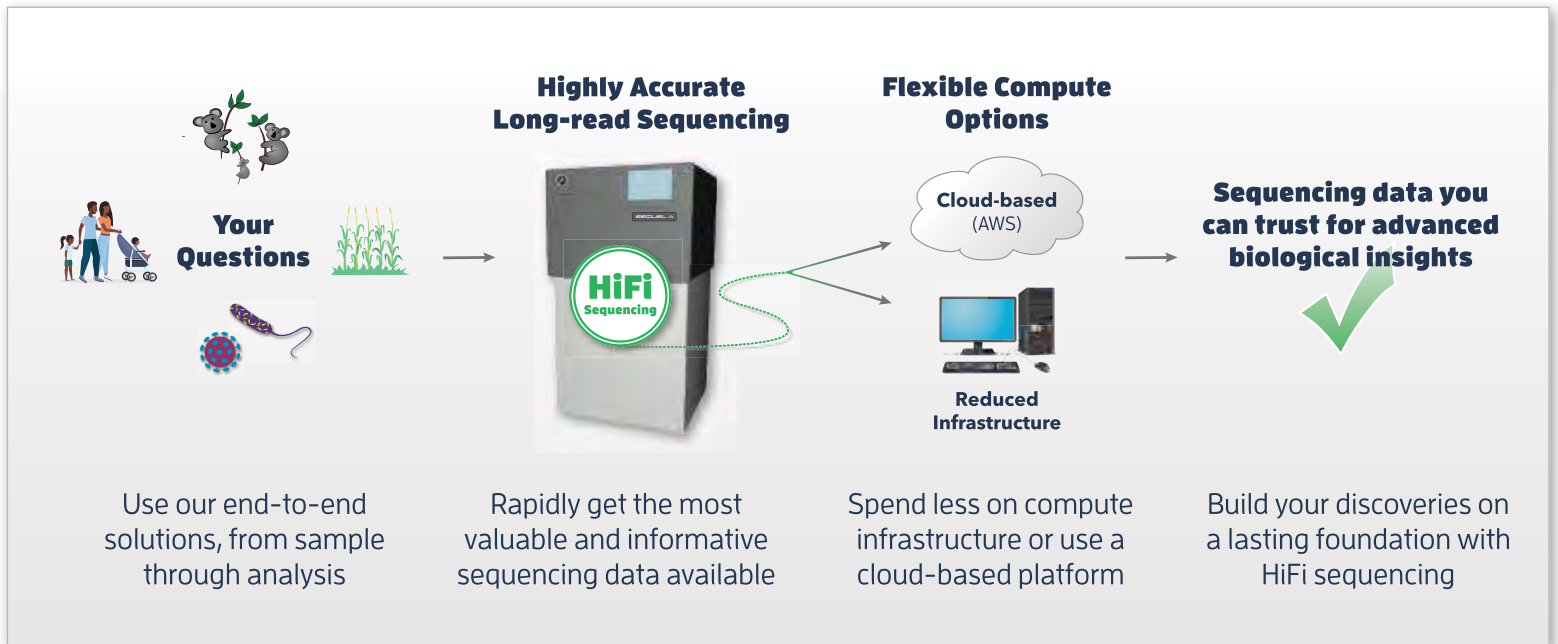
Human Genome Assembly Quality Metrics

	Nanopore + Illumina	PacBio HiFi Sequencing ✓
<b>Contiguity (N50)</b>	32.3 Mb	98.7 Mb
<b>Correctness (Quality Score)</b>	Q34	Q51
<b>Completeness (Genome Size)</b>	2.8 Gb	3.1 Gb



# HiFi Sequencing and the Sequel Ii System

## Delivering Insights to All Life Scientists



**"If your genome isn't HiFi, it's no longer reference grade."**

– Kevin McKernan, Medicinal Genomics

**To Unlock Your Next Great Discovery with HiFi Sequencing and the Sequel Ii System, Contact Your Local Sales Team:**

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South America: [sasales@pacb.com](mailto:sasales@pacb.com)

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# CleanDTR

## BIGDYE® SEQUENCING CLEAN UP SYSTEM - UTILIZING PARAMAGNETIC BEADS



### Description

CleanDTR is an efficient paramagnetic bead-based system, designed to remove unincorporated dye terminators from a Sanger sequencing reaction. The CleanDTR process involves three simple steps: bind, wash and elute. By selectively binding the sequencing product to the magnetic particles, unincorporated dyes, nucleotides, salts and primers will be removed during ethanol washes. This principle allows for elution of the pure Sanger Sequencing product in the elution buffer of choice. The protocol can be adapted to your current liquid handling workstation (e.g. Beckman, Hamilton, Tecan, Caliper, Perkin Elmer, Agilent and Eppendorf), utilizing your current protocol, but it can also be used manually.

### Features

- Long Phred 20 read lengths averaging over 800 bps
- Pass rates over 85% or higher
- Efficient elimination of sequencing reaction contaminants
- Reduce BigDye® usage, due to increased average signal strength

### Applications

- Clean up of sequencing product for both ABI and MegaBACE platforms

### Supported Chemistries

- BigDye® versions 1.0, 1.1, 2.0, 3.0 and 3.1
- DYEnamic ET

### Comparative Analysis of CleanDTR vs CleanSEQ®

		Signal Strength	CRL	QV
Plasmid DNA*	CleanDTR	2155	636	56
	CleanSEQ	2096	635	55

		Signal Strength	CRL	QV
PCR <sup>1)</sup> : 1.8 kB PCR Fragments*	CleanDTR	1044	844	50
	CleanSEQ	872	776	50

\* All samples (plasmid and PCR products) are a median of 16 samples in 5 µl reactions using a 1/32 BigDye® dilution and are processed on a ABI 3730 sequencer.  
NB: No dye blob(s) and/or ski slope effect were observed.

### Ordering Information

Cat No	Product Description	Preps <sup>2)</sup>
CDTR-0005	CleanDTR (5 mL)	500 / 1,000
CDTR-0050	CleanDTR (50 mL)	5,000 / 10,000
CDTR-0500	CleanDTR (500 mL)	50.0 / 100,000

1) The PCR process is covered by patents owned by Roche Molecular Systems, Inc., and F. Hoffman-La Roche, Ltd.

2) 96- or 384-well format

All trademarks are the property of their respective owners.



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🌐 www.cleanna.com

# ahn myLab MC-01

Microcentrifuge 6000 rpm

4

**Usage** - separation of particles from suspension or macromolecules from solutions

**Capacity** - 8-place closed rotor for 1.5 mL / 2.0 mL micro tubes

**Maximum Speed** - 6000 rpm / 2000 x g

**Multiple tube options** - adaptors for 0.2 mL / 0.5 mL tubes available

**Unique closed rotor design** - ensures better airflow through low-friction, stability for temperature sensitive samples through low heat generation and ultra-silent, vibration free operation

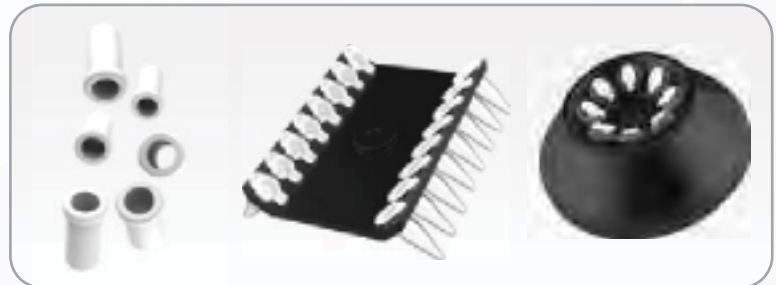
**Secure operation** - electronic brake for immediate stop on lid opening for increased user safety

**Durability** - robust construction / solid hinge and switch design

**Quick and comfortable operation** - possibility of quick runs by simply closing and opening the lid / digital display

**Small footprint saves valuable bench space** - suitable for use in hoods and cold rooms

**Speed accuracy** +/- 100 rpm



## Ordering information

Description	Cat. No.
AHN myLab® MC-01 Microcentrifuge 6000 rpm	7-000-01-0

Specifications	
Noise level	< 55 db
Quick spin feature	yes, lid activated on/off
Power consumption	10 W
Dimensions (WxDxH)	162x157x155 mm

Delivery Package
1 pc. Microcentrifuge 6000 rpm
1 pc. 1.5 / 2.0 mL closed rotor
1 pc. PCR strip rotor
1 pc. T-Allen wrench
8 pcs. Individual adaptor for 0.2 mL tubes
8 pcs. Individual adaptor for 0.5 mL tubes
1 pc. External power adaptor
1 pc. Instruction manual
1 pc. Warranty card
1 pc. Declaration of conformity

# ahn pipette4U pro

## Manual Single and Multi Channel Pipettes

4

**Comfortable and effortless pipetting** - new user-friendly handle design with soft grip for comfortable operation to prevent hand stress / light weight / low plunger force minimises RSI (repetitive strain injury)

**Easy identification** - use the easily attachable colour-coded drops to identify your pipette according to your requirements

**Durability** - new tip cone demonstrates high mechanical strength and high resistance against chemicals

**Calibration stability** - even after multiple autoclaving no recalibration is required

**Accurate and reliable pipetting** - reverse pipetting option for accurate and precise aspirating and dispensing of viscous liquids / innovative soft grip prevents transfer of heat to internal components, ensuring accurate pipette operation / lock counter mechanism of variable volume pipettes prevents volume changes while pipetting / blow out system allows last drop dispensing

**Sterile handling** - fully autoclavable pipette (by steam at 121°C / 15 min)

**Easy and quick maintenance and adjustment** - with the included disassembly and calibration tool

**Meets following standards:** DIN EN ISO 8655-1  
| DIN EN ISO 8655-2 | DIN EN ISO 8655-6  
| EU Directive 98/79/EG

**Compatibility list** available on request

UV  
RESISTANT

CE IVD

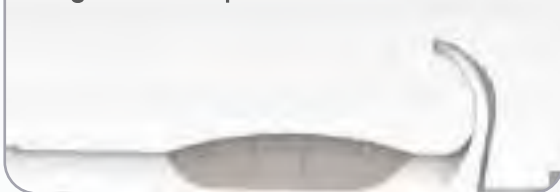
2  
YEARS  
WARRANTY

autoclavable  
121°C  
15 min

### Colour Coding



### Ergonomic Shape



### Delivery Package

1 pc. Manual pipette	1 bag Sample Tips
1 pc. Calibration / Disassembling Tool	1 bag O-rings
1 pc. Drop Tool	1 pc. Instruction Manual
1 bag Colour Coding Drop	1 pc. Warranty Card
1 pc. Silicon Grease	1 pc. Calibration Report

UV  
RESISTANT

CE IVD

2  
YEARS  
WARRANTY

autoclavable  
120°C  
15 min



9

## Ordering information

Electronic multi channel pipettes

Volume	Channels	Test volume	Increments	Inaccuracy <sup>1</sup>	Imprecision <sup>2</sup>	Cat. No.
0.2-10 µL	8	0.5 µL	0.01 µL	5.00%	3.00%	8-520-00-0
		5 µL		2.50%	1.50%	
		10 µL		0.90%	0.50%	
2.5-50 µL	8	5 µL	0.10 µL	2.50%	1.50%	8-521-00-0
		25 µL		0.90%	0.30%	
		50 µL		0.40%	0.50%	
10-100 µL	8	10 µL	0.10 µL	3.00 %	2.00 %	8-523-00-0
		50 µL		1.00 %	0.80 %	
		100 µL		0.80 %	0.30 %	
15-300 µL	8	20 µL	0.50 µL	0.90%	0.50%	8-522-00-0
		150 µL		0.40%	0.30%	
		300 µL		0.30%	0.10%	
0.2-10 µL	12	0.5 µL	0.01 µL	5.00%	3.00%	8-530-00-0
		5 µL		2.50%	1.50%	
		10 µL		0.90%	0.50%	
2.5-50 µL	12	5 µL	0.10 µL	2.50%	1.50%	8-531-00-0
		25 µL		0.90%	0.30%	
		50 µL		0.40%	0.50%	
5-100 µL	12	10 µL	0.10 µL	3.00 %	2.00 %	8-533-00-0
		50 µL		1.00 %	0.80 %	
		100 µL		0.80 %	0.30 %	
15-300 µL	12	20 µL	0.50 µL	0.90%	0.50%	8-532-00-0
		150 µL		0.40%	0.30%	
		300 µL		0.30%	0.10%	

### Delivery Package

1 pc. Electronic pipette	1 pc. Li-Ion-battery
1 pc. Sample bag with tips	1 pc. Charger (EU)
1 pc. Grease	1 pc. Instruction Manual
1 bag Screwdriver	1 pc. Calibration Report

<sup>1</sup> Systematic error <sup>2</sup> Random error