ADAM MC2

A New standard of Automated Cell Counter

-Stem cell

-CAR-T cell

-CAR-NK cell

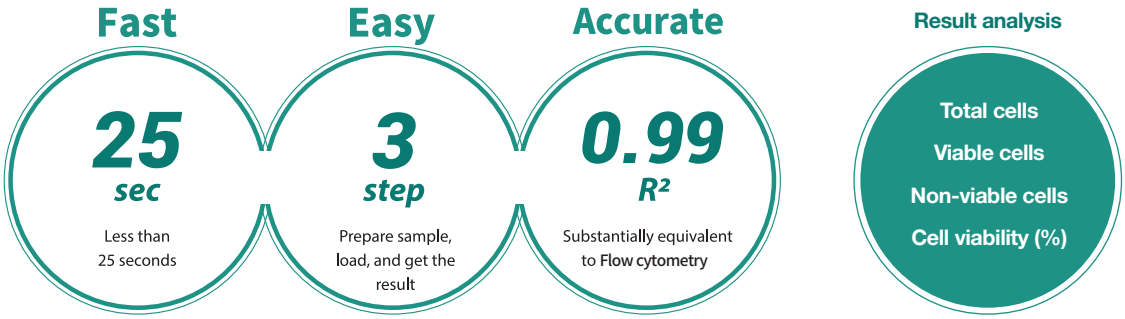
-Adipose-derived stem cell

Less than 25 sec

NanoEntek

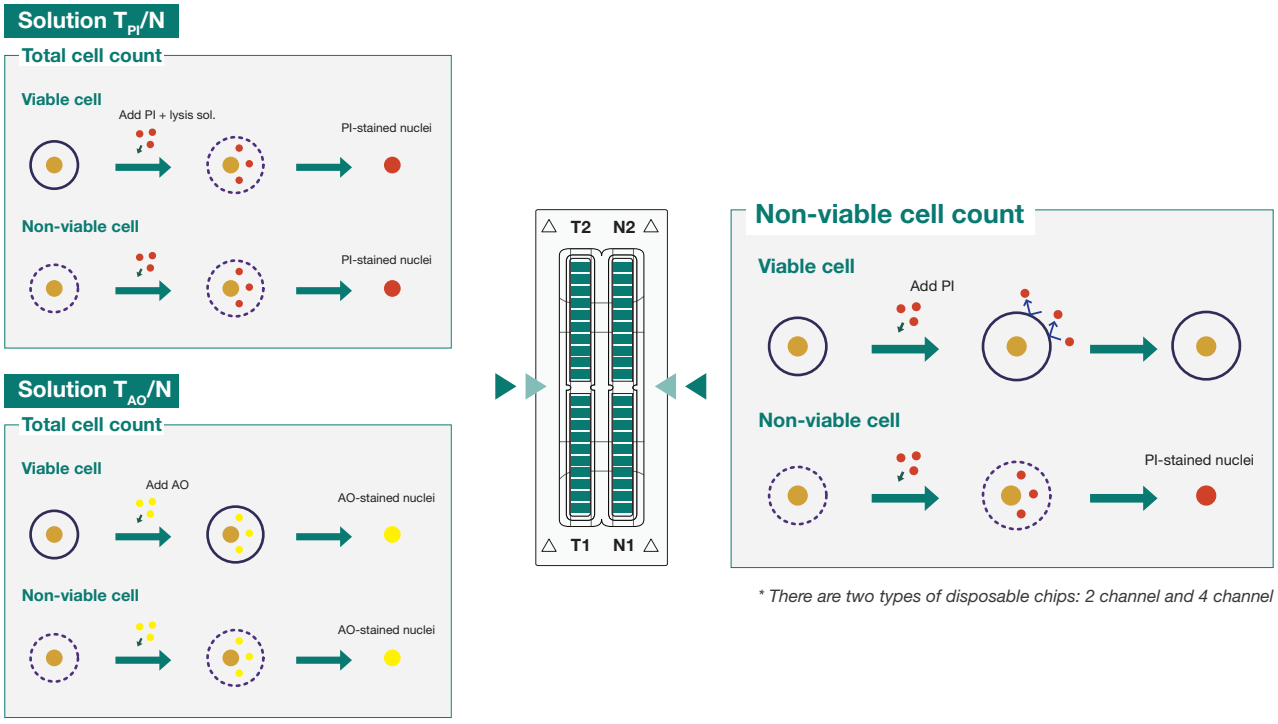
Most Accurate Nucleus Cell Counter

ADAM-MC2 is a new standard of automated fluorescence cell counter. ADAM stands for Advanced Detection and Accurate Measurement. ADAM-MC2 utilizes sensitive fluorescence dye staining, LED optics and CMOS detection technologies to make the cell analysis more accurate and reliable. It measures the number of total cells, viable cells, non-viable cells and shows viability results. Combined with a disposable microfluidic chip, the operation is now extremely simple, easy, and cost-effective.



Principle of Viability Measurement (AO, PI-Staining Method)

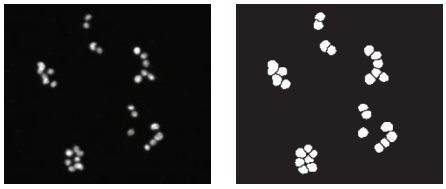
There are two methods of viability measurement. After the samples are stained with fluorescent dye, propidium iodide (PI) or acridine orange (AO), which intercalates DNA to stain the nucleus of target cells, ADAM-MC2 takes fluorescent images automatically. The obtained images are processed by image analysis software integrated inside the system.



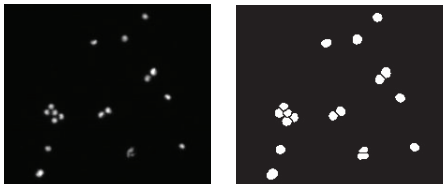
** There are two types of disposable chips: 2 channel and 4 channel*

Counting Aggregated and Irregular-Shaped Cells

HepG2
(Clumped cell line)



HeLa



ADAM-MC2 provides accurate and reliable results because it counts aggregated and irregular-shaped cells.

- Accurate count based on cell size and shape
- Count aggregated cells individually
- Debris is excluded from results

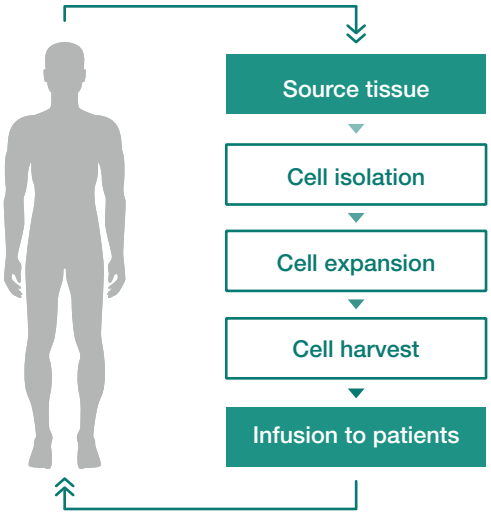
Among the images on the left, the images on the right side indicate cells that have been counted by ADAM-MC2.

Cell Therapeutic Applications

ADAM-MC2 can be used as a device for monitoring and QC of the cell numbers and viability in the process of manufacturing cells (CAR-T cells, stem cells, etc.) for Cell Therapy.
In addition, it is possible to use ADAM-MC2 depending on the cell types (Whole blood cell, PBMCs, etc.) that needs to be monitored during the manufacturing of cell therapy products.

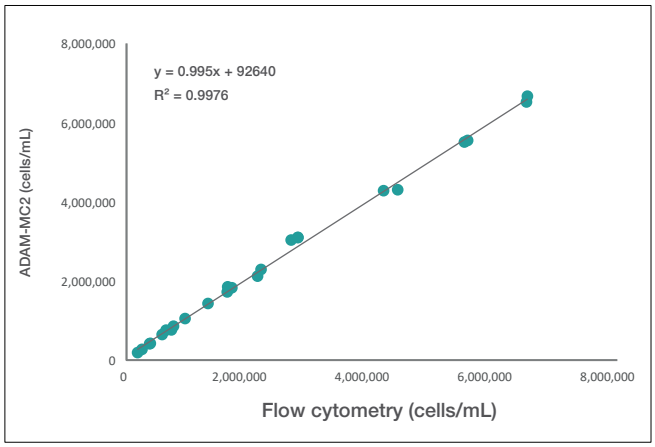
Application

01 Stem cell
02 CAR-T cell
03 CAR-NK cell
04 Adipose-derived stem cell ⋮
05 Whole blood cell
06 Aggregated cell
07 PBMCs

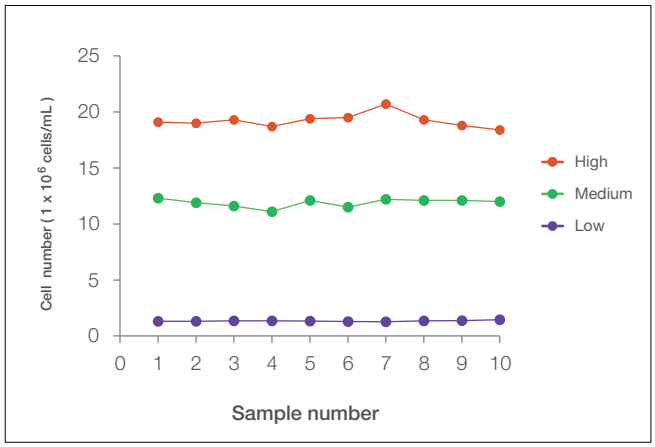


Accuracy & Repeatability

Correlation of total cell counting between flow cytometry and ADAM-MC2.

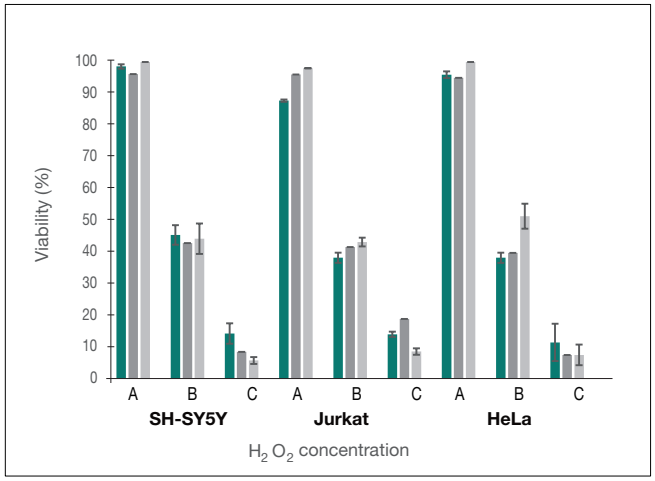


Sample with low, medium and high concentration of cells were counted with ADAM-MC2. The repeatability at each level of cell concentration is high.



	High	Medium	Low
	n=10	n=10	n=10
Mean (cells/mL)	1.9×10^7	1.2×10^7	1.3×10^6
SD	623253	375500	49001
CV (%)	3.24	3.16	3.65

Comparison of Cell Viability



Comparison of cell viability between ADAM-MC2, flow cytometry, and manual counting.
SH-SY5Y, Jurkat, HeLa cells were treated with 100, 300μM H_2O_2 for 3 hours, then analyzed by ADAM-MC2, flow cytometry, and manual counting.

■: ADAM MC2 ■: FACS ■: Manual count
A: Untreated / B: 100 μM / C: 300 μM

Specifications

ADAM-MC2

Cat No. ADAM-MC2

Hardware	
Focus	Auto-focusing
LED	4W Green LED
Weight	7.0 kg
Size (LxWxH)	277 x 276 x 270mm

AccuChip Kit

Cat No. AD4K-200 (4 channel)

Performance	4channel
Analysis time	< 25 sec/test
Loading volume	13 uL
Measuring volume	3.4 uL
Measurement range	5 X 10^4 ~ 4 X 10^6 cells/mL (PI)
	5 X 10^4 ~ 2 X 10^7 cells/mL (AO/PI)

Ordering Information

Catalog Number	Product Name
ADAM-MC2	ADAM-MC2
AD4K-200*	AccuChip 4x Kit (PI) (4 channel, 200 slides/kit, PI viability kit)
AD4K-200AO	AccuChip 4x Kit (AO/PI) (4 channel, 200 slides/kit, AO/PI viability kit)

**AD4K-200: Total cell is counted by PI with lysis buffer.*

Catalog Number	Product Name
ADR-1000*	Accustain Solution (PI Accustain solution)
ADR-1000AO	Accustain Solution (AO/PI Accustain solution)
ADB-500	ADAM Calibration Bead

**ADR-1000 : Total cell is counted by PI with lysis buffer.*

NanoEntek

NESCT-AMC2-001E (V.0.4)

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