M
MERCK MILLIPORE

Introducing
Scepter™ 2.0 Cell Counter

Bringing you precision counting in an easy-to-use, portable format, the Scepter cell counter has revolutionized the way scientists are able to count cells and particles.

The new Scepter 2.0 cell counter marks the launch of the next generation in Scepter technology, highlighted by:

Compatibility with More Cell Types
The Scepter cell counter is the only one on the market to accurately count particles smaller than 6 μm in diameter.

Increased Cell Concentration Range
The new 40 μm sensor can count samples concentrated up to 1,500,000 cells/mL.

Powerful Software for Complex, Effortless Cell Analysis:
- Compare sample sets side by side using histogram overlay and multiparametric tables
- Save and create gating templates
- Generate reports, graphs and tables

What people are saying...

"At last, an alternative to lining up for the Coulter counter, and far easier than sweating over fragile hemocytometers."

> **AMY A. CAUDY** is a Lewis–Sigler Fellow at Princeton University's Lewis–Sigler Institute for Integrative Genomics
> *The Scientist,* Dec. 2010.
> Top Ten Innovations of 2010.

"Cell counting is normally a very tedious process and usually only provides minimal information on the cell population. This instrument, which is only slightly larger than an automatic pipette, allows you to count cells in your tissue–culture hood, simplifies the procedure, and provides much useful data, such as the fraction of intact cells."
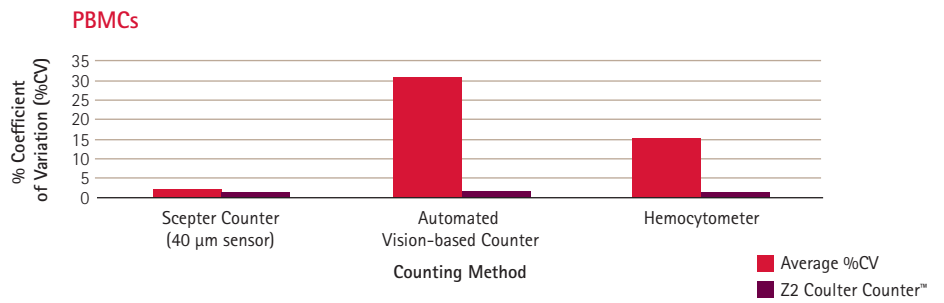
> **H. STEVEN WILEY** is a lead biologist at the Environmental Molecular Sciences Laboratory at the Pacific Northwest National Laboratory
> *The Scientist,* Dec. 2010.
> Top Ten Innovations of 2010.

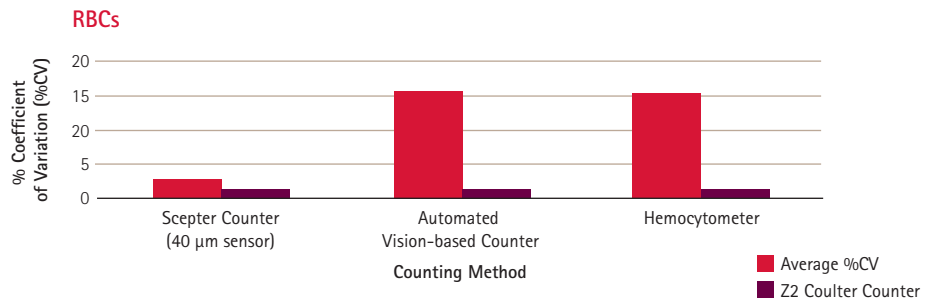Merck Millipore is a division of **MERCK**

The Power of Precision

Trust Scepter counting with your most valuable samples to get repeatable and dependable counts. The accuracy of Scepter counting is particularly apparent with smaller cell types. Because the Scepter cell counter measures volume using the Coulter Principle, it can properly discriminate cells from debris and background unlike vision based techniques, which rely on object recognition software and cannot reliably detect small cells.

Count blood cells and other cells with small diameters with the highest precision. For counting peripheral blood mononuclear cells (PBMCs, 7 µm diameter) and red blood cells (RBCs, ~5.6 µm diameter), Scepter counting is more precise than other counting methods, including other commercially available automated vision-based benchtop cell counters and manual counting.

PBMCs

Bar chart — % Coefficient of Variation (%CV) vs Counting Method
- Scepter Counter (40 µm sensor): Average %CV ≈ 2; Z2 Coulter Counter™ ≈ 1
- Automated Vision-based Counter: Average %CV ≈ 31; Z2 Coulter Counter™ ≈ 1
- Hemocytometer: Average %CV ≈ 15; Z2 Coulter Counter™ ≈ 1

Legend: ■ Average %CV ■ Z2 Coulter Counter™

The Scepter 2.0 cell counter counts PBMCs with greater precision than other counting methods, as reflected by low coefficients of variation. %CVs were calculated using average cell counts of four replicate samples.

RBCs

Bar chart — % Coefficient of Variation (%CV) vs Counting Method
- Scepter Counter (40 µm sensor): Average %CV ≈ 3; Z2 Coulter Counter ≈ 1
- Automated Vision-based Counter: Average %CV ≈ 15.5; Z2 Coulter Counter ≈ 1
- Hemocytometer: Average %CV ≈ 15.5; Z2 Coulter Counter ≈ 1

Legend: ■ Average %CV ■ Z2 Coulter Counter

The Scepter 2.0 cell counter counts RBCs with greater precision than other counting methods, as reflected by low coefficients of variation. %CVs were calculated using average cell counts of four replicate samples.

Scepter Sensor Technology

Now compatible with 60 µm and 40 µm sensors, the Scepter 2.0 Cell Counter can meet even more of your cell and particle counting needs. Use the 60 µm sensor for particles between 6 and 36 µm. Use the 40 µm sensor for particles between 3 and 17 µm. The table (left) lists just some of the cell types validated with the Scepter cell counter and the recommended Scepter sensor.

	Measured size (µm)	40 µm	60 µm
NIH 3T3	15		Merck Millipore Validated
454 beads			Customer Validated
Algae (various)	7-9	Merck Millipore Validated	
CHO	14-17		Merck Millipore Validated
Cos-7	15		Merck Millipore Validated
Epithelia	14-15		Merck Millipore Validated
HEK293	11-15		Merck Millipore Validated
HeLa	12-14		Merck Millipore Validated
HepG2	12		Merck Millipore Validated
HT-29	11		Merck Millipore Validated
HUH7-Hepatoma line			Customer Validated
B Cells	6-11	Merck Millipore Validated	
Human ES Cells	9-12	Merck Millipore Validated	
HUVEC	14-15		Merck Millipore Validated
Jurkat	13		Merck Millipore Validated
K562	22		Merck Millipore Validated
Luminex® beads	5-6	Merck Millipore Validated	
MCF7	15-17		Merck Millipore Validated
MDCK	13-15		Customer Validated

	Measured size (µm)	40 µm	60 µm
Mouse Embryonic Stem Cell	5-13	Merck Millipore Validated	Merck Millipore Validated
Mesenchymal Stem Cell	15-16		Merck Millipore Validated
PBMCs	7-12	Merck Millipore Validated	
PC12	9-13	Merck Millipore Validated	
Primary Astrocytes	7	Recommended based on size	
Primary Neuronal Cell		Recommended based on size	
Rat Whole Blood	4.6	Merck Millipore Validated	
Rat Dorsal Root Ganglion Cells	7	Merck Millipore Validated	
Red Blood Cells	5-7	Merck Millipore Validated	
Rat Neural Stem Cell	11-13		Merck Millipore Validated
SF9	13		Merck Millipore Validated
SH-SY5Y	12		Merck Millipore Validated
Splenocytes	7-9	Customer Validated	
U266	12		Merck Millipore Validated
U87-Human Glioblastoma cell line	12-14		Customer Validated
Yeast- *Pichia Pastoris*	5	Merck Millipore Validated	
Yeast- *S.cerevisiae*	6	Merck Millipore Validated	

Legend: ■ Recommended based on size ■ Merck Millipore Validated ■ Customer Validated

Intuitive New Analysis Software

From simple counts to complex volume measurements used to assess cell health parameters, Scepter Software Pro provides an intuitive, intelligent platform to perform high-level cell analysis based on the size measurements captured with the Scepter cell counter.

Using the Scepter Software Pro on your computer, you can:

- Compare several samples and data sets side by side using histogram overlay and multiparametric tables
- Save and create gating methods to be used from one experiment to the next
- Create attractive graphical presentations and reports with your data

A VIEW OF SCEPTER SOFTWARE PRO

DATA: data files from your Scepter cell counter

CURRENT PLOT: working plot and data file

GROUP STATS: customizable statistics from your selected data files

MULTIFUNCTIONAL PLOT: multiple data sets/histogram overlays

REPORTS: export, print selected graphs/files, cut and paste

ANALYSIS TEMPLATES: saved gating parameters

ORDERING INFORMATION

Description	Quantity	Catalog No.
Scepter 2.0 Handheld Automated Cell Counter		
with 40 µm Scepter Sensors (50 Pack)	1	PHCC20040
with 60 µm Scepter Sensors (50 Pack)	1	PHCC20060
Includes:		
Scepter Cell Counter	1	
Downloadable Scepter Software	1	
O-Rings	2	
Scepter Test Beads	1	PHCCBEADS
Scepter USB Cable	1	PHCCCABLE
Scepter Sensors, 60 µm	50	PHCC60050
	500	PHCC60500
Scepter Sensors, 40 µm	50	PHCC40050
	500	PHCC40500
Universal Power Adapter	1	PHCCPOWER
Scepter O-Ring Kit, includes 2 O-rings and 1 filter cover	1	PHCCOCLIP

Are you an existing Scepter user interested
in upgrading your device to Scepter 2.0?

It's easy.

Visit **www.millipore.com/scepterupgrade**
to upgrade your Scepter today!