

TC20™ Automated Cell Counter

- Cell counting
- Cell viability
- Analysis options



Reliable, Accurate Cell Counts in 30 Seconds

With its innovative auto-focus technology and sophisticated cell counting algorithm, the TC20 automated cell counter eliminates subjectivity while delivering reliable results in 30 seconds. Whether you work with cell lines or primary cells, the TC20 counter gives you accurate, highly reproducible mammalian cell counts in a fraction of the usual time.

Depending on the complexity of your samples, you can let the cell counting algorithm do all the work or select a population of interest by adjusting cell size gates. Avoid the tedium of manually counting cells and move on to other important tasks. It all adds up to a better workflow for your workday.

- **Compatible with a broad range of cell sizes and types** — counts cell lines, primary cells (from tissue or blood), and stem cells
- **Innovative auto-focus technology** — removes the variation associated with manual focusing and leads to precise cell counts in 30 seconds
- **Cell size gates** — user selects a population of interest in complex samples, such as primary cells, or lets the cell counting algorithm do all the work
- **Cell viability** — analyzes cells accurately using multifocal plane analysis
- **Easy to archive and analyze** — stores up to 100 counts in the onboard memory for access any time, or use the optional TC20 data analyzer software on your PC to further analyze exported cell images

One-Step Counting



Load the sample onto a slide.



Insert the slide into the TC20 cell counter; counting automatically begins.



Obtain a total cell count (without trypan blue) or total and live cell counts (with trypan blue) in 30 seconds.

BIO-RAD

Accurate and Reproducible Results

The TC20 counter uses microscopy with auto-focus that analyzes multiple focal planes to identify the best plane on which the counting algorithm then distinguishes between cells and debris. The auto-focus leads to highly reproducible cell counts with reduced user-to-user variability compared to a hemocytometer and cell counters with manual focus.

The TC20 cell counter provides accuracy comparable to results obtained with a hemocytometer. Its broad concentration range of 5×10^4 – 1×10^7 cells/ml eliminates the need to dilute cells, thus reducing the errors associated with sample dilutions prior to counting. The TC20 counter uses a patent-pending counting slide designed to ensure an even distribution of cells throughout the counting chamber, regardless of the user's pipetting style.

Cell Size Gating

For complex samples, such as primary cells, users can adjust the cell size gates to define the population of interest that will be counted. When counting multiple sample replicates, the TC20 cell counter can save gating preferences.

Cell Viability

The TC20 counter auto-detects the presence of trypan blue in the sample to assess cell viability. The conventional method of analyzing viability using a single focal plane can lead to inaccurate conclusions because light scattering and the alignment of cells at different heights in a counting chamber can change the appearance of cells — live cells may appear to be dead and vice versa. To determine if cells are viable, the TC20 counter analyzes each cell using images acquired from multiple focal planes during the focusing step.

Analysis Options

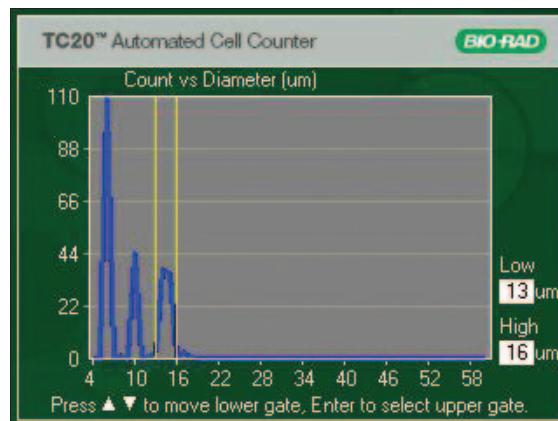
An image of the counted cells can be viewed after the count on the TC20 counter. A JPEG file of the cell image with a data metatag is available for immediate export to a USB flash drive, or an automatic export of all data can be enabled.

The optional TC20 data analyzer software can be used to review images, perform multi-file comparative analyses, and generate reports.

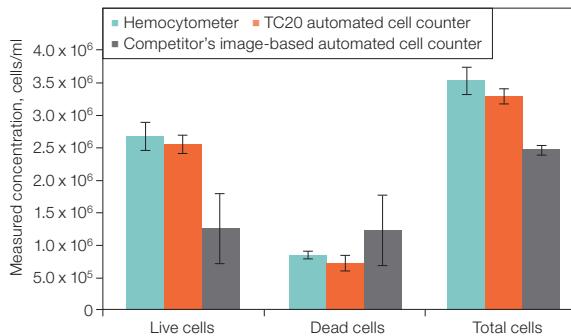
A custom sample name can be assigned to each sample. The optional thermal label printer can print count results onto labels that can be placed into a laboratory notebook.

Specifications

Counting time	30 sec
Cell concentration range	5×10^4 – 1×10^7 cells/ml
Cell diameter range	6–50 μm
Sample volume	10 μl
Data export	Via USB flash drive
Dimensions (W x D x H)	19 x 15 x 25.4 cm (7.5 x 6 x 10")
Weight	2.2 kg (4.8 lb) without the external power supply



Adjust the position of the cell size gates to select a population of interest.



The TC20 cell counter demonstrates accurate counts of viable cells. Pan T cells mixed with trypan blue (1:1) were counted with a hemocytometer, a TC20 automated cell counter, and a competitor's image-based automated cell counter. The TC20 counter and hemocytometer cell counts showed no statistically significant differences. Precision is indicated by the standard deviations; error bars represent average standard deviations. Cell counts on the TC20 counter were performed on four different instruments with five sample replicates.

Ordering Information

Catalog #	Description
TC20 Automated Cell Counter	
145-0102	TC20 Automated Cell Counter, 120–240 V, includes instrument, power supply, USB flash drive, USB cable, 30 dual-chamber counting slides (60 counts), 1.5 ml trypan blue
145-0103	TC20 Automated Cell Counter with Thermal Label Printer, 120–240 V, includes instrument, power supply, USB flash drive, USB cable, thermal label printer, 1 roll of 185 labels, 30 dual-chamber counting slides (60 counts), 1.5 ml trypan blue
Kits and Accessories*	
145-0003	Counting Kit, includes 30 dual-chamber counting slides (60 counts), 1.5 ml trypan blue
145-0014	System Test Kit, includes verification slide, instructions
145-0005	Thermal Label Printer, 120–240 V, includes thermal label printer, USB cable, 1 roll of 185 labels

* TC20 kits, reagents, and accessories are compatible with the TC10™ automated cell counter.



Bio-Rad
Laboratories, Inc.

Life Science
Group

Web site www.bio-rad.com USA 800 424 6723 Australia 61 2 9914 2800 Austria 01 877 89 01 Belgium 09 385 55 11 Brazil 55 11 5044 5699 Canada 905 364 3435 China 86 21 6169 8500 Czech Republic 420 241 430 532 Denmark 44 52 10 00 Finland 09 804 22 00 France 01 47 95 69 65 Germany 089 31 884 0 Greece 30 210 9532 220 Hong Kong 852 2789 3300 Hungary 36 1 459 6100 India 91 124 4029300 Israel 03 963 6050 Italy 39 02 216091 Japan 03 6361 7000 Korea 82 2 3473 4460 Mexico 52 555 488 7670 The Netherlands 0318 540666 New Zealand 64 9 415 2280 Norway 23 38 41 30 Poland 48 22 331 99 99 Portugal 351 21 472 7700 Russia 7 495 721 14 04 Singapore 65 6415 3188 South Africa 27 861 246 723 Spain 34 91 590 5200 Sweden 08 555 12700 Switzerland 061 717 95 55 Taiwan 886 2 2578 7189 Thailand 800 88 22 88 United Kingdom 020 8328 2000