

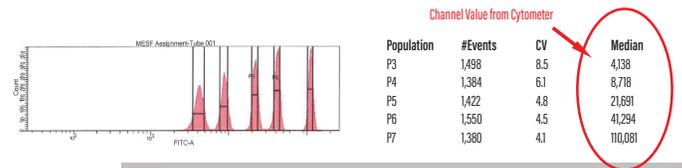
**DESCRIPTION**

QuickCal® v. 3.0 is an Excel® spreadsheet-based analysis template that is intended for use with Quantum™ MESF and Quantum™ Simply Cellular® kits. Specifically, QuickCal® simplifies quantitative fluorescence analysis through pre-programmed regression calculations. The resulting calibration curve associates fluorescence channel values to standardized fluorescence intensity units (MESF or ABC), and permits the assignment of MESF or ABC values to labeled cell samples. QuickCal® also serves a QC function, reporting both the lower detection threshold and regression coefficient (linearity) for the pertinent detector at test-specific settings.

**Note:** ABC - Antibody Binding Capacity; Quantum™ Simply Cellular® products  
MESF - Molecules of Equivalent Soluble Fluorochrome; Quantum™ MESF products

**PROCEDURE**

- Go to the Bangs Laboratories' website to download the QuickCal® template at [www.bangslabs.com/quickcal](http://www.bangslabs.com/quickcal).
- Enter relevant information, including your QuickCal® Access Number, at the prompt. Select the file you would like to download. **Note:** Files are lot-specific.
- Select the appropriate version based on the resolution of your instrument.  
Options include:
  - Logarithmic regression (e.g. BD FACSDiva™, Accuri™ C6) for linear data ( $10^0 - 10^6$ )
  - BD Relative Linear Scale for log data ( $10^0 - 10^6$ )
  - Coulter Relative Linear Scale for log data (0.1 - 1000)
- If using Quantum™ FITC-5 MESF, select the intensity range you need.  
Options include:
  - Low four intensity template
  - High four intensity template
  - All five intensity template



Bead	MESF	Channel
Blank		Enter channel value
Bead #1	12583	4138
Bead #2	26260	8718
Bead #3	66878	21691
Bead #4	126547	41294
Bead #5	334388	110081

#	Sample Name	Channel	MESF
1	Sample 1	45437	16,644
2	Sample 2	24311	74,577
3	Sample 3	1100312	306,009
4		Enter channel value	Data incomplete
5		Enter channel value	Data incomplete
6		Enter channel value	Data incomplete
7		Enter channel value	Data incomplete
8		Enter channel value	Data incomplete
9		Enter channel value	Data incomplete
10		Enter channel value	Data incomplete

- The selected QuickCal® template will download to your computer.
- Run Quantum™ MESF or Quantum™ Simply Cellular® microspheres on the same day and at the same instrument (PMT and compensation) settings as the labeled cell samples. Document relevant details (PMT voltage, mAb clone, etc.) in the "Instrument" and "Comments" sections of the template
- Gate on each population within the fluorescence histogram.
- Enter the Median or Geo Mean channel value for each fluorescence peak against its calibrated MESF or ABC value that appears within the QuickCal® (Excel®) template in the "channel" field in the first section. Both the regression coefficient and detection threshold will be reported.
- Enter the Median or Geo Mean channel values of labeled samples for the assignment of MESF or ABC values.

Use Bangs Laboratories' free online quantitative software, QuickCal v 3.0 to analyze your flow cytometry data. To access QuickCal v 3.0, go to [www.bangslabs.com/quickcal](http://www.bangslabs.com/quickcal) and enter access code: [CODE]

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**NOTES**

- The QuickCal® Access Number is printed on a label affixed to the product canister. In most cases, this is the same as the invoice number for the specific order. (See sample label, right.)
- Generally, the Median or Geo Mean channel value is entered for each bead population. Either statistic may be used, though the same must be used for beads and cell samples.

3. The calibration (regression) curve is calculated from values entered for the four (or five for FITC-5) labeled bead populations. The blank bead population is not used to construct the curve, but is read from the curve, and reported as the detection threshold. The regression coefficient ( $R^2$ ) is also reported.  $R^2$  values as near as possible to 1.0 are desired. Sub-optimal linearity will impact the accuracy and reproducibility of assignments to cells and may indicate: a) a problem with the run; b) use of the wrong template resolution; or c) the need for instrument maintenance.

Quantum™ MESF and Quantum™ Simply Cellular® kits contain populations of microspheres surface-labeled with specific amounts of the noted fluorophore or antibody. Due to the calibrated nature of the products, they are intended to be used by the noted expiration date. We are unable to guarantee results achieved beyond the expiration date.

## TROUBLESHOOTING

If the curve doesn't fit the window, it's likely that the wrong version of the template has been used. To determine "resolution," or the appropriate version of the template, look at the x-axis of the fluorescence histogram. Typically, numbering of  $10^0 - 10^4 =$  BD Relative Linear;  $0.1 - 1000 =$  Coulter Relative Linear.

An unexpectedly high detection threshold may indicate free dye in the system, or, for Quantum™ Simply Cellular®, that the blank bead population was stained with the antibody-coated beads.

If poor results (e.g. linearity) are achieved with a particular run, prepare and run a fresh sample. If poor results persist, this may indicate:

- (for Quantum™ Simply Cellular® beads) a problem with staining;
- the bead sample was damaged, e.g. photobleached;
- the need for instrument service.

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Excel® is a registered trademark of Microsoft Corporation.

Alexa Fluor® is a registered trademark of Life Technologies Corporation.

These products are for Research Use Only and are not intended for use in humans or for *in vitro* diagnostic use.

## ORDERING INFORMATION

Cat. Number	Description	Sizes
488	Quantum™ Alexa Fluor® 488 MESF	1mL, 5mL, or 14mL
647	Quantum™ Alexa Fluor® 647 MESF	1mL, 5mL, or 14mL
823	Quantum™ APC MESF	1mL, 5mL, or 14mL
555	Quantum™ FITC-5 MESF	1mL, 5mL, or 14mL
555p	Quantum™ FITC-5 MESF Premix	1mL, 5mL, or 14mL
827	Quantum™ R-PE MESF	1mL, 5mL, or 14mL
815	Quantum™ Simply Cellular® anti-Mouse IgG	1mL, 5mL, or 14mL
816	Quantum™ Simply Cellular® anti-Human IgG	1mL, 5mL, or 14mL
817	Quantum™ Simply Cellular® anti-Rat IgG	1mL, 5mL, or 14mL

Order online anytime at [www.bangslabs.com](http://www.bangslabs.com).