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Thermo Scientific

Flow Cytometry,
Hematology & Diagnostics

Sales Bulletin 123C

9/15/07

Cyto-Cal™ Multifluor Fluorescence Intensity Calibrator

Stable calibration material for assessing instrument stability
and precision in multiple channels

Applications:

- Flow Cytometry
- Cell Sorting

Advantages:

Superior bead size uniformity
and dye intensity uniformity

No singlet gating required

Stable thermally and photolytically

Firefli™ Dye Process—dye is
incorporated throughout polymer
(no dye leaching)

A history of more than
thirty years experience in
synthesis, dyeing, measuring,
packaging and support

Benefits:

Stable for the life of the product

Confidence in instrument
performance/results

Compliance with most QC programs

Appropriate dyes and intensity levels
provide data from four decades of
the log amp—the entire sensitivity
range of most instruments

Provides insight into the linearity,
range and calibration of the log amps

Easy-to-use, single-vial formula



- Uniform, 3 µm polystyrene microspheres
- Three stable, proprietary dyes incorporated within the polymer matrix (hard-dyed beads)
- (7) Seven intensity levels

Product Description. The Cyto-Cal™ Multifluor Fluorescence Intensity Calibrator is designed to simultaneously monitor flow cytometer stability and provide a check on instrument sensitivity and performance. Although the product can provide relative fluorescence estimations of labeled cells (MEFL)—it is not designed for quantitation of fluorochromes on cells.

The calibrator is a mixture of uniform 3 µm microspheres with three dyes in seven different fluorescent intensities (Figure 1, reverse). Due to the high uniformity of the microspheres, singlet gating is not required. The Calibrator consists of a single vial of fluorescent beads precisely stained with fluorescent dyes that have optimized intensity and broad emission in multiple channels (FITC, PE, PE-Cy5, PE-Texas Red, APC, APC-Cy7). Each intensity level has an MEFL (mean equivalent fluorochrome)* value for estimation of relative fluorescence intensities of labeled cells.

* MEFL has also been referred to as Molecules of Equivalent Soluble Fluorochrome (MESF). The MEFL values provided are not traceable to a standard reference material.

Product Attributes

Particle Composition:	Polystyrene Microsphere Containing Encapsulated Dyes
Dyes:	Firefli™ Fluorescent Green (488/510 nm), Orange (488/575 nm) and Red (488, 633, 635/700 nm)
Size(s):	3 µm Nominal Diameter
Concentration:	Approximately 1.5 x 10 ⁷ particles/mL
Particle Density:	1.06 g/cm ³
Fill Volume:	3 mL
Content:	Dyed Polymer Microspheres in Water
Expiration Date:	> 12 months
Additives:	0.05% Tween-20 Dispersant / Surfactant with 2 mM Sodium Azide Preservative
Package Includes:	Package Insert Sheet with MEFL Data and Material Safety Data Sheet (MSDS)
Storage & Handling:	Refrigerate when not in use; do not freeze. Store upright and keep bottle tightly sealed. Mix product by gentle inversion by hand or vortex mixer.



Additional product information:

**Technical Note TN-025 Differences in Beads
for Flow Cytometry QC and Quantitation**

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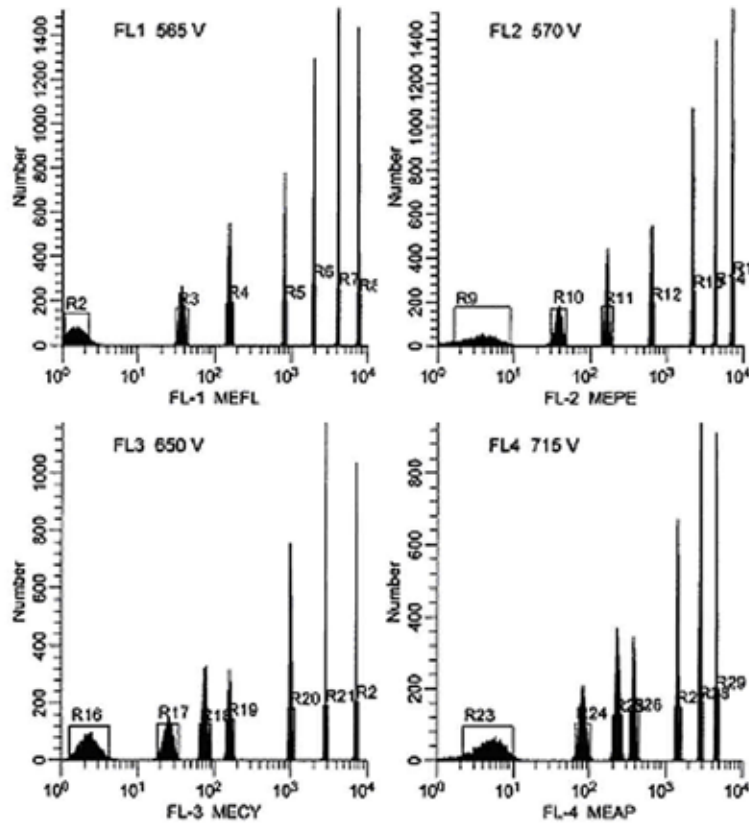


Figure 1: Data from FACSCalibur®, Becton Dickinson, San Jose, CA.
Results on different instruments may vary.

The Cyto-Cal™ Multifluor Fluorescence Intensity Calibrator contains microspheres with dyes that excite and emit at the spectral ranges commonly used in flow cytometry: Green (488/510 nm), Orange (488/575 nm) and Red (488, 633, 635/700 nm). Figure 1 shows typical results from a Becton Dickinson instrument.

Ordering Information

Catalog Number	Description	Quantity
FC3M	Cyto-Cal Multifluor	3 mL

Cyto-Cal™ is a trademark of Microgenics Corporation.

Also available:

Sales Bulletin 124 Cyto-Cal™ Alignment Beads

Sales Bulletin 125 Cyto-Cal™ Low Intensity Calibrator

Microgenics also provides products for multiplex assay development:

Sales Bulletin 109 Cyto-Plex™ Carboxylated Microspheres (4 μm)

Sales Bulletin 129 Cyto-Plex™ Carboxylated Microspheres (5 μm)

Sales Bulletin 128 Cyto-Plex™ Avidin Microspheres

All products are manufactured and packaged at our ISO 9001:2000 registered facility in Fremont. Please feel free to contact our technical service department if you have any questions about these products or have a special material requirement not listed here.

Due to minor variations between batches, mean diameters may change slightly from batch to batch.

LIMITED WARRANTY: These products are intended for laboratory use by trained scientific personnel. Determination of their suitability for a specific end-use is the responsibility of the user, who assumes all liability for loss or damage arising out of the use of the product. Rebottling or relabeling voids the warranty and certification. Microgenics Corporation's warranty is limited to the replacement of defective products if returned with our authorization within 60 days of purchase date.

THE FOREGOING WARRANTY SHALL BE IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL MICROGENICS BE LIABLE FOR INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

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