

# Painless Particles®

Global Newsletter  
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A DIVISION OF POLYSCIENCES, INC.

**B E A D S ● A B O V E T H E R E S T™**

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### *It's Coming... It's Getting Closer*

What's coming closer, you ask? Why, it's **The Latex Course™ 2012**, of course. At the Latex Course, industry experts share their expertise on a variety of topics, including microsphere applications, assay development, and reagent manufacture.

Plan now to attend this late summer/early fall learning extravaganza! Details will be forthcoming, so stay tuned.

## More Silica to Love!

Did you know that Bangs has expanded our silica product line?! We are proud to now offer **dry silica microspheres** in diameters from **0.3µm – 6.0µm**.

And, we're not done yet! Our aqueous silica suspensions are now also available in **diameters of 6, 7, and 8µm**.

And, we're still not done! What's coming soon? Even larger silica particles – we're talking **9 and 10µm diameters!**

Stay tuned....

## SureCount™ Microspheres:

### 1...2...3...4....

If you're into particle counting (as we are), take good care of your laboratory instrumentation (as you should), or have a quality audit looming on the horizon (we should all be so lucky), we think that you'll have good reason to really dig our new line of particle count standards!

SureCount microspheres are available in four sizes from 3µm to 15µm, and diameters are traceable to NIST Standard Reference Materials. The standards are supplied as 1 x 10<sup>6</sup> microspheres/mL aqueous suspensions in 10mL volumes.

SureCount microspheres can aid in instrument validation and ongoing QC, and support Gage studies and operator proficiency testing. They offer a convenient means to check flow meters, filtration systems, or, if applied to surfaces, even the rigor of your teenager's cleaning practices. (We knew you'd like them.)

SureCount microspheres complement our existing catalog of standards for analytical instruments including cell viability analyzers, particle sizers, flow cytometers, and microscopes. And, if we don't have exactly what you need, we would be happy to develop it through our custom and OEM services. Pretty groovy, huh?

<u>Catalog Code</u>	<u>Product Description</u>	<u>Quantity</u>
CC03N	SureCount™ Particle Standards, 3µm	10mL
CC05N	SureCount™ Particle Standards, 5µm	10mL
CC10N	SureCount™ Particle Standards, 10µm	10mL
CC15N	SureCount™ Particle Standards, 15µm	10mL



## Ti-i-i-ime Is On Our Side, Yes It Is....

### (With Bangs' Time Delay Standard for Flow Cytometry)

Many flow cytometers are equipped with two or more lasers that permit the analysis of multiple fluorescent labels on each cell. As the individual cell passes each laser, relevant fluorophores are excited, and fluorescence is measured in corresponding detectors. For this information to be meaningful, however, the data that are collected by the detectors off of each laser must be integrated and attributed to the proper cell. This is accomplished through the precise timing of the cell as it travels through the instrument. Provided that time delays are in calibration, the instrument is able to "track" the cell as it passes by each laser for correct data assimilation and reporting.

*(continued on next page)*

## Compensation Tribulations? Not to Worry!

### Introducing Our Expanded Line of Compensation Products for Flow Cytometry

Flow cytometers are commonly equipped with two or more lasers that permit the development of expanded multicolor panels. This ability to analyze cells that are labeled with multiple fluorochromes is important to clinical applications such as immunophenotyping and surveillance of lymphocyte subsets, as well as research applications including vaccine development and proteomics.

But of course with awesome power comes...well...some caveats. The sophisticated optical systems and fluorescent reporters that make these analyses possible also create a need to develop rather complex compensation matrices to subtract out fluorescence that bleeds over from the intended detector into other detection bands. Moreover, the development of an assay-specific compensation matrix may involve not only numerous fluorophores, but also antibodies from multiple host species.

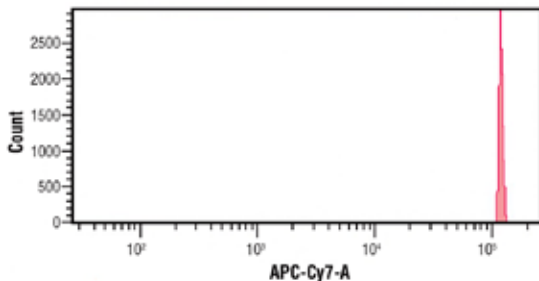
Fortunately, Bangs offers an abundance of products to support even the most involved compensation matrices. No matter if you're working with monoclonal antibodies, polyclonal antibodies, reactive fluorophores or quantum dots, we've got you covered! So let us ease your worries and keep you looking good to your labmates—check out our comprehensive collection of pre-labeled and customizable compensation standards!

<b>Catalog #</b>	<b>Description</b>	<b>Quantity</b>
820	FITC/PE Compensation Standard	1mL, 5mL, or 14mL
553	Flow Cytometry Protein A Antibody Binding Beads	1mL, 5mL, or 14mL
554	Flow Cytometry Protein G Antibody Binding Beads	1mL, 5mL, or 14mL
550	Simply Cellular® Compensation Standard (anti-Mouse IgG)	5mL
551	Simply Cellular® Compensation Standard (anti-Rat IgG)	5mL
552	Simply Cellular® Compensation Standard (anti-Human IgG)	5mL
835 – <b>NEW!</b>	Simply Cellular® Compensation Standard for Violet Laser (anti-Mouse IgG)	5mL



## Ti-i-ime Is On Our Side, *continued*

Seems complicated, but we can help! Bangs' new Time Delay Calibration Standard is intended for use in assessing the delay between red and blue lasers. It features ~6µm microspheres dyed with a fluorophore that is excited with 488nm or 635nm lasers, and exhibits red / far-red emission. The Time Delay Calibration Standard is available in 1mL, 5mL, or 14mL volumes. Very timely.

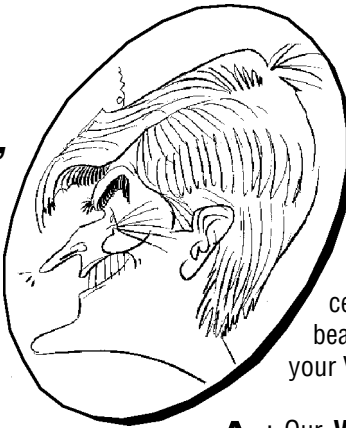


<b>Catalog Code</b>	<b>Product Description</b>
830	Time Delay Calibration Standard



Cartoon reprinted with special permission from Sidney Harris <SHarris777@aol.com> and [www.sciencecartoonsplus.com](http://www.sciencecartoonsplus.com).

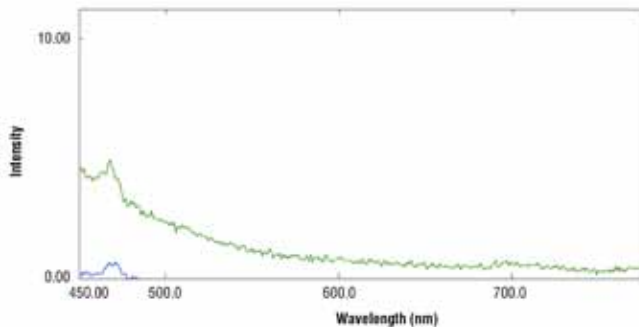
## Ask “The Particle Doctor®”



**Q** : We’ve observed higher than anticipated background from our usual comp beads when running them with the 405nm laser, even though they’re giving expected results using 488nm and 633nm excitation. Any idea as to why this is, and how we can work around it?

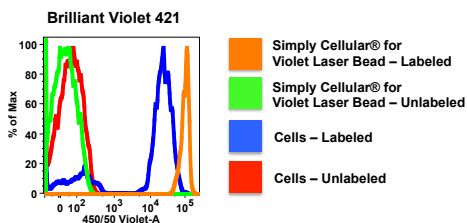
**A** : Flow cytometry bead standards are typically synthesized of polystyrene or other common polymer matrices. These compositions are well suited to dyeing and coating, and have low autofluorescence with blue and red excitation. These same materials, however, exhibit a characteristic absorbance band in the UV / violet region that leads to higher apparent autofluorescence with 405nm excitation.

Figure 1: Absorbance of Polystyrene Compared to New Simply Cellular® Beads in the UV/Violet Region



Though this inherent autofluorescence is difficult to circumvent, we do have a solution. Our new **Simply Cellular® anti-Mouse IgG standard for Violet Laser** is composed of a propriety matrix that exhibits low autofluorescence with 405nm excitation and antibody binding characteristics that are highly comparable to lymphocyte populations. It is suitable for use with violet and other fluorochrome-labeled mouse mAbs, and serves as an excellent cell surrogate for the development of compensation matrices for violet and other detectors.

Figure 2: Simply Cellular® Beads for Violet Laser Labeled With Different Fluorochromes



**Q** : We are working with a fluorescence-based (flow cytometric) kit for conducting cell viability analyses, and would like a bead standard for calibration purposes. What about your ViaCheck™ microspheres?

**A** : Our **ViaCheck™ standards** are intended for cell viability analyzers that rely on the trypan blue method. While we don’t offer dedicated fluorescent viability standards, customers have used some of our **Fluorescence Reference Standards**, which are available with a number of relevant fluorophores, such as Propidium Iodide, DAPI, Hoechst 33342, Fluorescein, etc. Our literature on Fluorescence Reference Standards (Product Data Sheet 890) and Cell Cycle Analysis (Brochure BSS 037) provide additional information regarding these and related products, such as our **Viability Dye Compensation Standard** (Product Data Sheet 853).

Of course, if you’ve been thinking of acquiring a new (trypan blue) analyzer, we’ll also be happy to supply you with ViaCheck™ standards...

Catalog #	Description
VC10B	ViaCheck™ 0% Viability Control
VC20B	ViaCheck™ 50% Viability Control
VC30B	ViaCheck™ 75% Viability Control
VC40B	ViaCheck™ 90% Viability Control
VC50B	ViaCheck™ 100% Viability Control
VC60N	ViaCheck™ Concentration Control (1 x 10 <sup>6</sup> )
VC70N	ViaCheck™ Concentration Control (4 x 10 <sup>6</sup> )
VC80N	ViaCheck™ Concentration Control (8 x 10 <sup>6</sup> )
450	Viability Dye Compensation Standard, 4µm
451	Viability Dye Compensation Standard, 8µm



## On The Road Again!

We'd Love to See You and Talk Beads



American Association for  
Clinical Chemistry (AACC)  
July 17 – 19, 2012  
Los Angeles, CA  
Booth TBD  
www.aacc.org

**Address Service Requested**



**"Science is simply common sense at its best." – Thomas Huxley**

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