

# Painless Particles®

Global Newsletter  
Volume 23, # 1, April 2010



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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### Mail Bonding

(Subscribers "do the 'write' thing!")

❖ Thanks for your assistance. Your level of service was orders of magnitude better than any other suppliers' customer service I have contacted. A.M., MN

### On The Road Again!

#### ❖ International Society for the Advancement of Cytometry

May 8 – 12, 2010  
Seattle, Washington  
Booth 600  
[www.cytoconference.org](http://www.cytoconference.org)

#### ❖ American Society of Microbiology

May 23 – 27, 2010  
San Diego, California  
Booth 1421  
[www.asm.org](http://www.asm.org)

#### ❖ American Association for Clinical Chemistry

July 27 – 29, 2010  
Anaheim, California  
OEM SECTION Booth 904  
[www.aacc.org](http://www.aacc.org)

## Introducing ProMag™ Bind-IT™! Novel Pre-Activated Microspheres

Exactly what are ProMag Bind-IT, you ask?

If our marketing department has done its job (and we think that we... er... they have), you'll already know all about our wonderful **ProMag** microspheres. But what in the heck is Bind-IT? Well, we'll break it down for you. **Bind** – we hope that's self-explanatory. **IT** – now that's the million-dollar question... Have we dedicated the product line to our InTernational customers? (*We adore you, but no.*) Been pondering advancements in Information Technology? (*Bo-ring; most of us are loads more fun than that.*) Proclaiming ProMag's "It-Factor"? (*Getting warmer...*) Unveiling our new **Immobilization Technology**? Well, actually... yes.

ProMag Bind-IT are 3µm polymer-based magnetic microspheres with a **revolutionary pre-activated surface** that allows ready binding of antibody without sacrificing stability. A simple incubation of beads and protein results in high and **stable** binding. And what's more, the novel Bind-IT chemistry is designed to immobilize antibody in a manner that **preserves tertiary structure** for optimal activity.

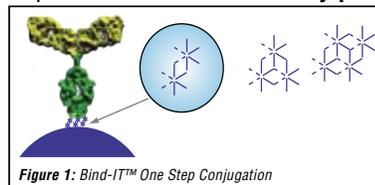


Figure 1: Bind-IT™ One Step Conjugation

The highly active Bind-IT surface provides **significant improvements in the sensitivity and dynamic range** of immunoassays. Bind-IT chemistry also offers **unparalleled reproducibility**, which means high batch-to-batch uniformity (what we like to call "manufacturability"), and fewer spats between R & D and production departments (what we like to call "harmony").

So as to the question of "What is IT?"... You have our resounding answer... ProMag Bind-IT. **Is. Awesome.**

<u>Catalog #</u>	<u>Product Description</u>	<u>Quantity</u>
PMB3N	ProMag™ Bind-IT™	2mL, 5mL, or 10mL

## Quantum (MESF) Leap Introducing Quantum™ AlexaFluor® MESF Kits

We are so happy that you're reading this newsletter, because, as you may have surmised, there are a lot of **new** and **exciting** things happening at Bangs Laboratories. New as in **NEW AlexaFluor beads**, and exciting, well, as exciting as a fluorophore reaching its S2 energy state. (You just sit down and take a deep breath, and we'll grab the defibrillator. It's gotta be around here somewhere....)

*Quantum (MESF) Leap continued on page 2*

## Quantum (MESF) Leap, cont. Quantum™ AlexaFluor® MESF Kits

Continued from page 1

Truly, we are thrilled to announce the addition of **AlexaFluor 488** and **AlexaFluor 647 Quantum MESF Kits** and **Reference Standards** to our extensive line of flow cytometry products. AlexaFluor dyes offer intense fluorescence and excellent photostability, which is why they're used to label all sorts of things (antibodies, peptides, oligos) that investigators like to stick to cells or microspheres. And now that we offer AlexaFluor MESF Kits and Reference Standards, you'll be able to assess, evaluate, and even quantitate all of those sorts of things with objectivity and ease.

So if you think you can handle the heart-pounding excitement... Well, you know where to find us.

<u>Catalog #</u>	<u>Product Description</u>
488	Quantum™ AlexaFluor® 488 MESF
647	Quantum™ AlexaFluor® 647 MESF
886	AlexaFluor® 488 Reference Standard
887	AlexaFluor® 647 Reference Standard



## Second(ary Antibodies) to None! Protein A and Protein G Ab Binding Beads

Though we have long offered a variety of microsphere binding standards for mouse, rat, and human monoclonals, we're ready to admit that we have neglected their hard-working cousins, the secondary antibodies. Well, *No más!* The time has come to right a wrong. The time has come for **Flow Cytometry Protein A and Protein G Antibody Binding Beads!**

Bound to our new Protein A and Protein G beads for flow cytometry, your conjugated goat, rabbit, and sheep antibodies will be recognized in their own right (as single population reference standards)! Your guinea pig and hamster secondaries will rise up and stand tall (as compensation beads)! Your donkey polyclonals will shout to the world that secondary antibody conjugates play second fiddle to no one!

Come and join the cause by trying our new Antibody Binding Beads!

<u>Catalog #</u>	<u>Product Description</u>
553	Flow Cytometry Protein A Antibody Binding Beads
554	Flow Cytometry Protein G Antibody Binding Beads

## Join Bangs in Sunny Florida for The Latex Course™ 2010!

Bangs will be presenting the 18th offering of our popular international course "Designing Microsphere-Based Tests and Assays" at *Disney's Grand Floridian Resort & Spa* in Lake Buena Vista, Florida, from October 3 – 5, 2010.

Topics covered will include polystyrene "latex" applications, such as latex agglutination tests and assays, as well as newer applications of "latex" and larger beads, such as proteomics, high-throughput screening, flow cytometry, multiplex bead assays, and immunochromatographic rapid tests, plus fluorescent and superparamagnetic bead applications. All attendees will also receive a copy of *The Latex Course 2010 Book* at the completion of the course.

For registration information, contact Customer Service at 800.387.0672 or visit our website at [www.bangslabs.com/service/the\\_latex\\_course](http://www.bangslabs.com/service/the_latex_course).



"Come in. Have a snack. Have a drink.  
Talk to some people. Leave."

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[www.sciencecartoonsplus.com](http://www.sciencecartoonsplus.com).

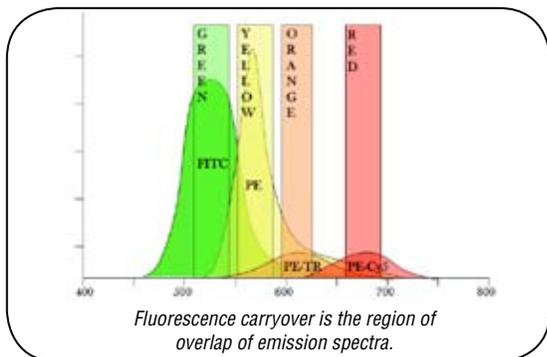
## Ask “The Particle Doctor®”



**Q** : A number of our fluorescent beads seem to emit throughout the spectrum (including orange and red regions), even though their primary emission is supposed to be in the green. Why is that, and what can we do about it?

**A** : This is carryover. It's what's known as "too much of a good thing," and all is lost. (Kidding!)

To a greater or lesser extent, broad emission, or fluorescence carryover into other (unintended) regions of the spectrum is characteristic of all fluorophores. It is particularly evident with highly sensitive instruments such as confocal microscopes and flow cytometers. It probably wouldn't be apparent with a standard fluorescence microscope, and if you've got one of those black lights, well, you have nothing to fear, as you won't see anything except your white T-shirt and tennies. (Did someone say dance party??)



Remedies might include changing the filter sets (for example to more stringent bandpasses) or the fluorophore itself. Fluorophores in the middle of the spectrum, e.g. with blue or green excitation maxima, tend to have significant carryover into regions that have historically been used in detection of reporters in bioassays, e.g. green, orange, red. It's not that the carryover is more severe with fluorophores in this region, rather it's occurring at an inconvenient place. We have observed that a number of UV/Violet (e.g. Glacial Blue) and Red (e.g. Flash Red) fluorophores tend to have little carryover into the green and orange, and might be better suited to your study if you need low background in these regions of the spectrum. As a final note, another strategy would be to use off-peak excitation, which will reduce fluorescence output, including the carryover signal.

**Q** : I just purchased Quantum™ Simply Cellular® Microspheres for the first time, and want to be sure that I'm using the

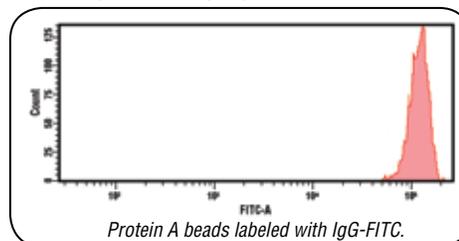
correct amount of antibody for labeling – what is your recommendation?

**A** : As Quantum Simply Cellular microspheres are intended for quantitative analyses, it is imperative that the beads are stained to saturation. We recommend that an antibody titration be performed for the beads to determine the optimal antibody concentration – bear in mind that the amount of antibody needed to saturate the beads may be different than the amount that is appropriate for the cells.

If the antibody concentration is not reported for the conjugate, I would suggest contacting the supplier. They should be able to provide this value, which will aid in establishing the range of concentrations to be used for the titration. Keep in mind, however, that the reported antibody concentration may include the fluorochrome, and a weight-based concentration of PE-conjugated antibody (MW of PE ~280,000 Da) will mean far fewer antibodies on a number basis than the same amount of FITC-conjugated antibody (MW of FITC ~389 Da).

**Q** : I need compensation beads for flow cytometry, and currently use your Simply Cellular® anti-Mouse Compensation Standard. Do you offer anything for the direct binding of goat, hamster, or rabbit antibodies?

**A** : Though we don't offer any anti-goat, anti-hamster, or anti-rabbit IgG standards, per se, we now offer single population Protein A and Protein G microspheres that are suitable for binding a range of antibodies, and may be used as reference beads for flow cytometry. Protein G is a strong binder of goat and rabbit antibodies, and Protein A binds hamster antibodies. You may use an unlabeled population or our Certified Blank™ microspheres with the labeled population for compensation purposes.



Catalog #	Description
553	Flow Cytometry Protein A Antibody Binding Beads
554	Flow Cytometry Protein G Antibody Binding Beads
890	Certified Blank™ Reference Standard

**Address Service Requested**



**"Travel and change of place impart new vigor to the mind." – Seneca**

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