

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™

● In This Issue

Introducing the New Fabulous Five! 1
It's Freezin' Season..... 1
Mail Bonding 1
Look to Bangs for Happy Holidays 2
Ask "The Particle Doctor®" 3
(Our Version of) The Rat Pack 3
It's Coming... It's Getting Closer 3

It's Freezin' Season



It's winter in North America, and with the cold weather upon us, we are taking precautions to ensure that your

orders do not freeze while in transit to you. This includes not shipping on Fridays – to avoid freezing conditions over the weekend. (So, please "bear" this in mind when placing an order—especially if you need it by a certain time.)

Introducing the New Fabulous Five! Quantum™ FITC-5 MESF

And just what or who are the Fabulous Five, you ask? The *Fantastic Four™* plus one? (Righhht – like we would even think about taking on *Marvel®*...) Duran Duran? (Hardly. Though we are still, like, totally into well-coiffed 80's bands.) 5 x F(ab)? (Oh, come on, we are so much more inventive than that!) No, it's much bigger and better than any of these—it's the new Quantum™ FITC-5 MESF!

If you're not familiar with Quantum MESF kits for quantitative expression analysis, let us introduce you! Quantum MESF kits consist of one blank bead population and a number of fluorescent bead populations surface labeled with increasing amounts of fluorochrome, either FITC, R-PE, PE-Cy™5, or APC. The beads are run on the cytometer on the same day and at the same instrument settings as cells to generate a standard curve relating channel value to a standardized fluorescence intensity unit, or MESF (Molecules of Equivalent Soluble Fluorochrome). Using the QuickCal® analysis template that we provide free of charge, MESF values are then assigned to stained cell samples. Quantum MESF kits may be used to determine the expression level of cells, as well as the resolution and linearity of the instrument.

We will now offer a single version of Quantum FITC MESF rather than separate Low, Medium, and High Intensity kits, each of which contained a blank and four labeled bead populations. The new version will consist of one blank and five labeled bead populations (aka *the Fabulous Five*) that span the intensity range previously covered by these three separate kits. Having a single kit eliminates the guesswork in choosing a kit intensity level, and circumvents the need to purchase multiple kits to cover the intensity range. We will, of course, continue to offer both standard and pre-mixed kits, as well as customized QuickCal templates. All of this and we're not even touching the price!

The Bangs Laboratories flow cytometry product line also includes a range of (totally awesome) products that support instrument validation, set up, and QC, as well as applications such as cell counting and size analysis. Check out our full catalog or consult the Flow Cytometry Technical Reference Section of our website at www.bangslabs.com.

Mail Bonding

Subscribers Do the "Write" Thing

- ❖ "I was very impressed with the speed of your delivery, especially for a new customer." A.B., NC
- ❖ "We found both product support and product quality to be excellent." C.S., NC
- ❖ "Great products and excellent technical literature (TechNotes)." S.K., ME

| Catalog # | Product Description | Quantity |
|-----------|---|-------------------|
| 555 | Quantum™ FITC-5 MESF (blank + 5 labeled populations) | 1mL, 5mL, or 14mL |
| 827 | Quantum™ R-PE MESF | 1mL, 5mL, or 14mL |
| 828 | Quantum™ PE-Cy™5 MESF | 1mL, 5mL, or 14mL |
| 823 | Quantum™ APC MESF | 1mL, 5mL, or 14mL |

Look to Bangs Laboratories For Happy Holidays in a Ho-Hum Economy

With the holidays fast approaching and the economy a bit lean, we thought we should alert our valued customers to a number of deals at Bangs Labs that could be the perfect solution to your shopping woes. You're sure to be amazed with the value and shopping convenience, and will find that, with a little ingenuity and thoughtful presentation, you and yours can have a truly memorable holiday.

For example, what child wouldn't be thrilled to receive:

- **BioMag® Flask Separator (MS004) – 40% off!**
(Present this as a fun and challenging game for those long winter months – see how many paperclip "bulls-eyes" you can throw from across the room. Just like darts, but without the smoky pub or risk of putting an eye out. Also a perfect gift for the jokester in your family – great for erasing the magnetic strip on credit cards, key cards, etc. Ages 8 - Adult)
- **1.5mL Tube Magnetic Separator – Free!** with purchase of 0.25g COMPEL™ COOH superparamagnetic microspheres (UMC3N or UMC4N)
(Focus on the authenticity and quality of this laboratory tool. Emphasize to the child that they are far too advanced for the likes of a bogus kiddie chemistry set. Forget Toys"R"Us® – this gift really caters to the more sophisticated Sharper Image® or SkyMall® crowd, and is essential to the well-appointed garage lab. Ages 6-11)
- **QuickCal® Analysis Template – Free!** with purchase of Quantum™ MESF and Quantum™ Simply Cellular® kits for expression analysis
(This "computer game" rivals thinking games such as Brain Age™ or Big Brain Academy™. For your mainstream gamers, suggest that Super Mario™ is soo passé by telling enthusiastic stories about how you used to play it when you were a kid. Be sure to use the word "kid." Ages 10-16)
- **Bangs Laboratories 2010 Computer Monitor Calendar – Free!** Coming soon in your shipments; if you're desperate, give us a call and we'll mail one out to you.
(This is analogous to the highly coveted "prize" in cereal boxes or Cracker Jacks®. In fact, you could even put it IN a box of cereal – a gift within a gift, if you will. And truly, who ever really grows out of the thrill of discovery? No-one, that's who. Ages 6 - Adult)

And for that someone special:

- **Bargain Beads** – An eclectic collection of regular Bangs beads available at special prices for end-of-run, close-out, or left-over lots. See our website for availability.
(Focus on the unique or one-of-a-kind nature of these products. Do not, under any circumstances, utter the words, "bargain," "end-of-run," "close-out," or "left-over.")
- **Overstock Flow Cytometry Products** – Single populations of microspheres labeled with crowd pleasers such as DAPI, FITC, PE, etc. Call for availability.
(You have poured countless hours into finding that perfect gift, and given your now-exhausted state, it's perfectly understandable that you confused Bangs Laboratories "overstock" with "Overstock.com®." In a preemptive strike, thank your significant other for recognizing that your heart was in the right place.)

As for your own holiday wish – perhaps a new car or repair of that 401K puddled on the floor? Well, there's always Santa....



"WISE UP. WE'RE NOT GETTING ALL THIS STUFF BECAUSE WE WERE GOOD THIS YEAR – THEY'RE BRIBES FOR US TO BE GOOD NEXT YEAR."

Cartoon reprinted with special permission from Sidney Harris <SHarris777@aol.com> and www.sciencecartoonsplus.com.

Ask “The Particle Doctor[®]”

Q : Quick question. How does Bangs Bead Solution impact subsequent coating – for example, will I need to do a lot of washing to remove it before coating? Will beads aggregate after washing?

A : The **Bangs Bead Solution (SOLN1)** is a good dilution and storage solution for uncoated polymer and magnetic beads. It contains an antimicrobial and stabilizers, and beads should be washed out of it before coating to avoid interference with binding. Washes may be performed in a generic buffer such as PBS or whatever buffer will be used for the next step in the coating process, such as our **Bangs Bead Coupling Buffers (BUFF1-BUFF4)**. As with any wash steps, if these (which effectively reduce the concentration of stabilizers) lead to aggregation, a small amount of stabilizer may be added back in to treat stickiness. The suspension may also be vortexed or carefully sonicated to disrupt aggregates.

For more information on washing in general, download our TechNote 203, *Washing Microspheres*, from the Technical Literature section of our website at www.bangslabs.com.



(Our Version of) The Rat Pack The Newest anti-Rat Standard for Flow

Though it's not Frank Sinatra, we knew you'd want to be the first to see our latest binding standards for rat primary antibodies. Our new Simply Cellular[®] anti-Rat product is a single population of microspheres coated with anti-Rat IgG (Fc specific) antibody for labeling with fluorescent monoclonal rat antibodies. It may be used in conjunction with a suitable Quantum[™] MESF kit for determination of the antibody's fluorophore labeling density (effective fluorophore/protein [F/P] ratio) or used to QC the fluorescence intensity of different antibody lots or clones.

The new Simply Cellular anti-Rat Compensation Standard complements our other products for compensation in multicolor flow cytometry. It includes a mixed population of low- and high-binding beads that users label with antibody conjugates to establish test-specific compensation settings.

| Catalog # | Product Description |
|-----------|--|
| 551 | Simply Cellular [®] anti-Rat Compensation Standard |
| 813 | Simply Cellular [®] anti-Rat IgG |
| 817 | Quantum [™] Simply Cellular [®] anti-Rat IgG |



Q : As polystyrene is a hydrophobic material, how are polystyrene microspheres stabilized?

A : Polystyrene microspheres in general are stabilized through endogenous charge groups and surfactants:

Charge Groups: PS beads are often synthesized with use of a charged (e.g. sulfate-based) initiator which will impart residual groups (e.g. SO₄⁻) on the surfaces of beads. Beads that have been specifically functionalized (as PS-COOH, which will have a carboxyl monomer co-polymerized with styrene) will also have that charge group on the surface.

Surfactants: PS beads are commonly synthesized in the presence of surfactant, which is essentially a wetting agent. Surfactants are polar molecules with hydrophobic and hydrophilic ends. The hydrophobic tail associates with the hydrophobic bead surface; the hydrophilic head is presented to the aqueous environment. Charged surfactants, like SDS, are often used, which provides charge stabilization in addition to the wetting function. There will be residual surfactant from the synthesis itself, and additional surfactant would be used to treat sticky/aggregated suspensions.

It's Coming... It's Getting Closer It's The Latex Course[™] 2010

What? You've never heard of The Latex Course[™]? Just what is it? Attending the Latex Course is just about the most fun a person can have on the planet! Seriously! Well, okay... maybe not quite that good, but it's still worth checking out.

The Latex Course is a conference where industry experts share their knowledge with course attendees on various topics, including microsphere applications, assay development, and reagent manufacture. All attendees will also receive a copy of The Latex Course 2010 Book at the completion of the course.

Planning for this educational extravaganza is underway, so stay tuned. Information regarding the next course - including topics, speakers, and registration information - will be coming soon.

Address Service Requested



**"Yesterday is history, tomorrow is a mystery. And today? Today is a gift.
That's why we call it the present." – Babatunde Olatunji**

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● In This Issue

| | |
|---|---|
| Introducing the New Fabulous Five! | 1 |
| It's Freezin' Season..... | 1 |
| Mail Bonding | 1 |
| Look to Bangs for Happy Holidays in a Ho-Hum Economy..... | 2 |
| Ask "The Particle Doctor®" | 3 |
| (Our Version of) The Rat Pack | 3 |
| It's Coming... It's Getting Closer | 3 |

