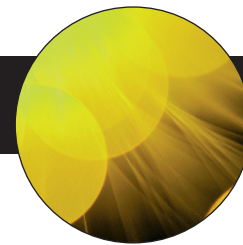


Instrument Standards

Ensuring Your Results – Time After Time



BEADS • ABOVE THE REST



Because Your Results are Only as Good as Your Standards!

Bangs Laboratories manufactures a comprehensive range of standards for analytical instruments such as cell analyzers, particle sizers, flow cytometers, and fluorescence microscopes. Our catalog includes NIST Traceable Particle Size Standards, SureCount™ Count Standards, ViaCheck™ Cell Viability and Concentration Controls, and a broad range of fluorescent and antibody capture beads for flow cytometric and imaging applications.

NIST-Traceable Particle Size Standards

Accurate particle size and distribution analysis is critical to particle-based technologies in industry and research. The particle sizing instruments used to support research, manufacturing, and QC efforts in these sectors must be rigorously calibrated and validated to ensure the integrity of results.

Particle size standards may be used to validate sizing instruments across their dynamic ranges. They are suitable for use in the performance of routine instrument calibration checks and corrections, and in the support of practice standards, such as those published by ISO, ASTM International, CEN, and other organizations.

Our **NIST-Traceable Size Standards** are monodisperse polystyrene spheres available in diameters ranging from 40nm to 175µm. Each bottle is provided with a Certificate of Traceability demonstrating that NIST Standard Reference Materials 1690, 1692, and 1961 were used to validate the accuracy and traceability of the calibration methods used to transfer the calibrated mean diameter dimension of this product.

Standards are supplied in de-ionized water with a trace amount of a proprietary surfactant and sodium azide.

SureCount™ Particle Count Standards

Particle counting instruments are employed in many research fields and commercial industries. This technology is used to assess the effectiveness of laboratory processes such as water filtration, and to determine particulate levels in environmental water samples. Automated particle counters are used to support industrial contamination control programs and also in the evaluation of finished products such as ultrapure chemicals or pharmaceutical parenterals.

Though the application of particle counting technology is diverse, there is a common need for instrument validation and ongoing QC. Microsphere-based **particle count standards** may be used to validate liquid counters across their dynamic ranges and to ensure continued capability through the performance of daily QC checks. The use of a reference material permits the standardization of results between runs, instruments and laboratories, and over time.

SureCount™ Particle Count Standards are suspensions of polymer microspheres intended for the **validation and monitoring of particle counters and supporting sample preparation processes**. SureCount standards are available in four sizes (3µm, 5µm, 10µm, or 15µm), with diameters traceable to NIST Standard Reference Materials. The standards are supplied as $\sim 1 \times 10^6$ microspheres/mL aqueous suspensions in 10mL volumes.

ViaCheck™ Viability Instrument Standards

Trypan blue dye exclusion is a common method for the determination of cell viability. It is used extensively in cell and tissue culture programs, and for a range of research studies including apoptosis, cytopathic effects of viral infection, and effects of

sample processing methods on cell viability and concentration.

Instrumental methods for **cell viability analysis** provide significant advantages over manual determinations, offering high accuracy, precision, and throughput. However, as with any analytical instrument, it is important to implement a QC program to ensure confidence in results.

ViaCheck™ Viability Instrument Standards are an addition to our extensive line of microsphere standards for instrument QC. ViaCheck standards mimic the light scattering characteristics of live and dead cells in the trypan blue dye exclusion method, and may be used to confirm the capabilities and verify the performance of image-based cell viability instruments. The standards are available in a range of common concentrations and live/dead ratios.

StarLight™ Calibration Slides

Our new StarLight™ Calibration Slides feature **vibrant ~6µm fluorescent microspheres** dyed with a single fluorophore for basic imaging checks and calibrations. Our **four standard versions** are appropriate for use with common microscope filter sets: **Glacial Blue** (360, 450), **Dragon Green** (480, 520), **Envy Green** (525, 565), **Flash Red** (660, 690), and are available individually or as the full 4-slide collection.

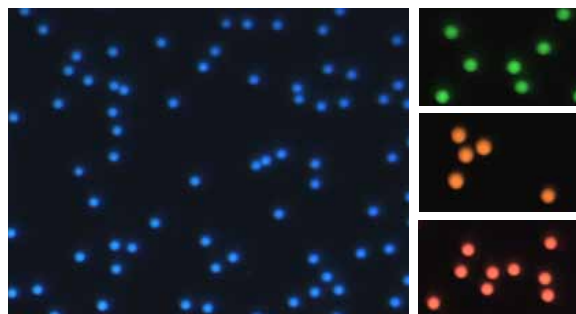


Figure 1: StarLight™ Calibration Slide microsphere images.

Flow Cytometry Standards

Bangs Laboratories produces fluorescent and antibody capture microspheres that offer standardization and analysis solutions for clinical and research flow cytometry laboratories. Our products include **Quantum™ MESF and Simply Cellular® systems for cellular expression analysis, QuantumPlex™ for multiplexed assay development**, and a large array of **Fluorescence Reference Standards**. We are also pleased to introduce our innovative new **Simply Cellular® Compensation Standard for Violet Laser**, which complements our other tools for instrument QC and set-up.

Fluorescent Intensity Standards

Our **Intensity Standard kits** feature 5 populations of ~8µm microspheres dyed with increasing amounts of either our **Dragon Green** or **Flash Red fluorophores**. The different intensity populations may serve as relative intensity standards for applications in fluorescence microscopy, and as internally-dyed beads, they will stand up to the rigors of imaging. The beads may also serve as very bright relative intensity or linearity standards for flow cytometry.

If a product that you require is not listed in our catalog, please check our website (www.bangslabs.com) as our product line is continually expanding. For special requirements, please contact us regarding our custom synthesis and contract manufacturing services.



Bangs Laboratories supplies a large variety of uniform polymeric, silica, and magnetic microsphere products setting the standards for diagnostic, research, and flow cytometry applications. No matter the project, we have a product that serves or we'll work to custom-design a solution to fit. And that's not the half of it.

We also stand behind our products. Regardless of the size of your question or the size of your company, we offer tech support, absolutely free.

Sound interesting? Give us a call.

317.570.7020