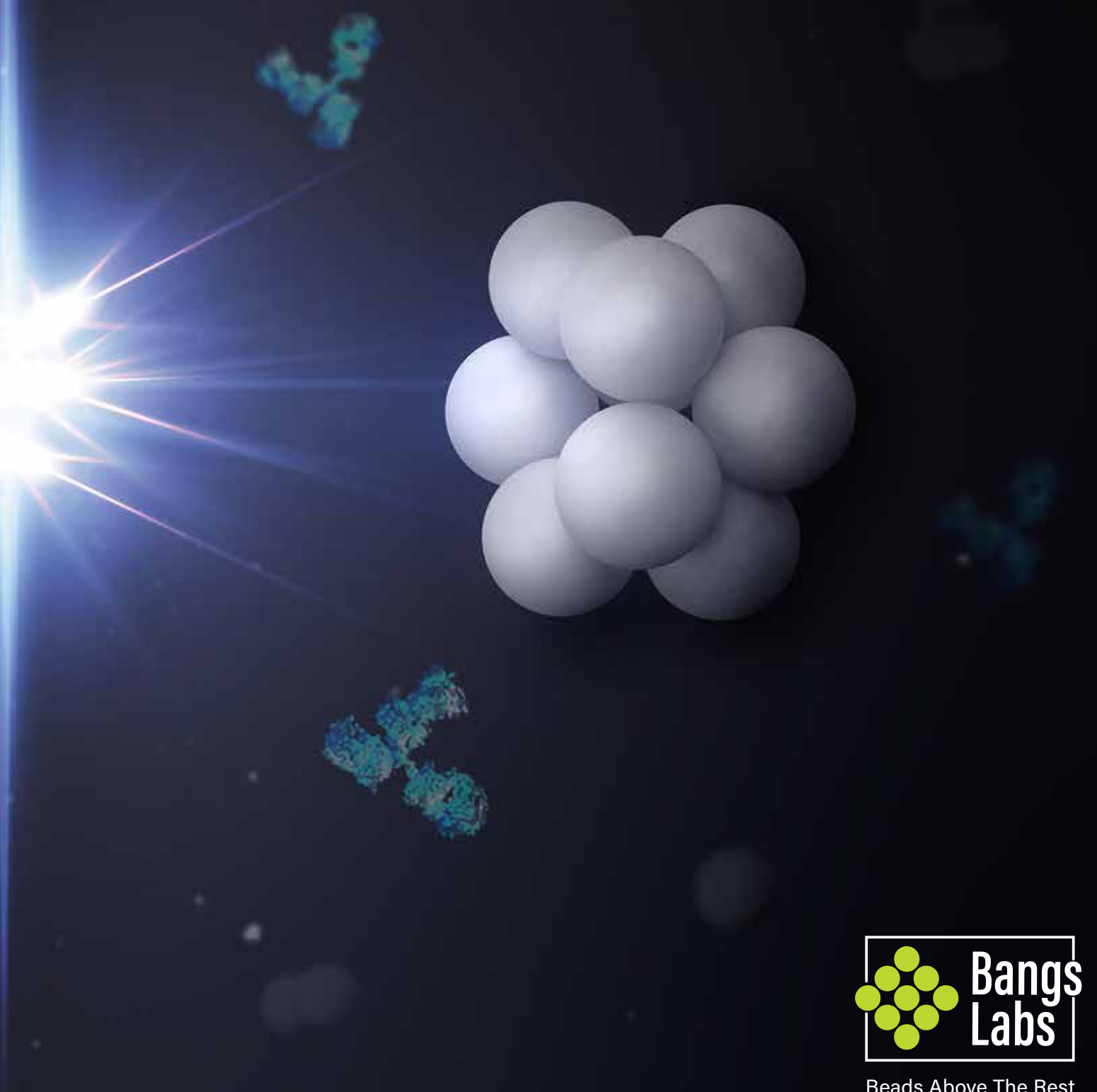


# AGGLUTINATION-BASED DIAGNOSTICS

Turbidimetric Assays & Latex Agglutination Tests (LATs)



Beads Above The Rest

Bangs Laboratories' 35 years of experience in microparticle synthesis and fine particle analysis have established us as a leading microsphere supplier and expert resource to diagnostic assay developers.

### CARBOXYLATED POLYSTYRENE (CML)

Catalog Number	Nominal Diameter
PC02002	0.050 µm
PC02003	0.070 µm
PC02004	0.100 µm
PC02005	0.125 µm
PC02006	0.150 µm
PC02007	0.175 µm
PC02008	0.200 µm
PC02009	0.300 µm
PC02010	0.350 µm
PC02011	0.400 µm
PC03001	0.500 µm

We offer various levels of carboxylation. Check the offerings at [BangsLabs.com](http://BangsLabs.com).

### PLAIN POLYSTYRENE

Catalog Number	Nominal Diameter
PS02002	0.050 µm
PS02003	0.075 µm
PS02004	0.100 µm
PS02005	0.125 µm
PS02006	0.150 µm
PS02007	0.175 µm
PS02008	0.200 µm
PS02009	0.300 µm
PS02010	0.400 µm
PS03001	0.500 µm
PS03002	0.600 µm

Please see [BangsLabs.com](http://BangsLabs.com) for all available sizes of plain & carboxylated polystyrene microspheres or contact us to discuss your specific needs.

### TURBIDIMETRIC & NEPHELOMETRIC ASSAYS

The assay of clinically relevant analytes is important for treating critical medical conditions such as cardiovascular disease, thrombosis, bacterial infections, and active inflammatory conditions. Light-scattering methods such as turbidimetric and nephelometric assays permit the rapid and quantitative assessment of the patient's condition, and the development of particle-enhanced versions has been known to increase sensitivities by 10- to 100-fold.

Bangs Labs offers carboxylated and plain polystyrene ("latex") microspheres in the submicron diameters 0.05 - 0.5 µm that are widely used for turbidimetric reagent development. The different surfaces support both covalent and adsorption protocols, allowing for the highly tailored coatings that are important to agglutination reactions. Moreover, our synthesis capabilities permit the manufacture of reproducible lots at the scales needed by OEM customers. See TN304, Light-Scattering Assays and our Turbidimetric Assay brochure.

### REFERENCES

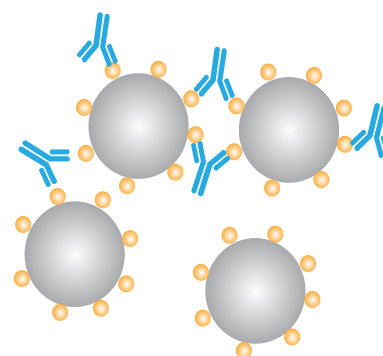
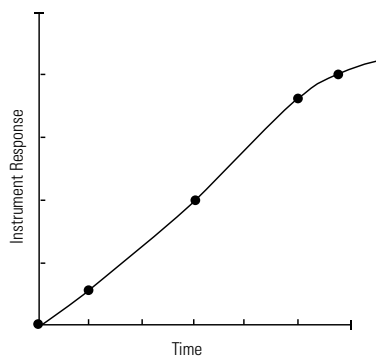
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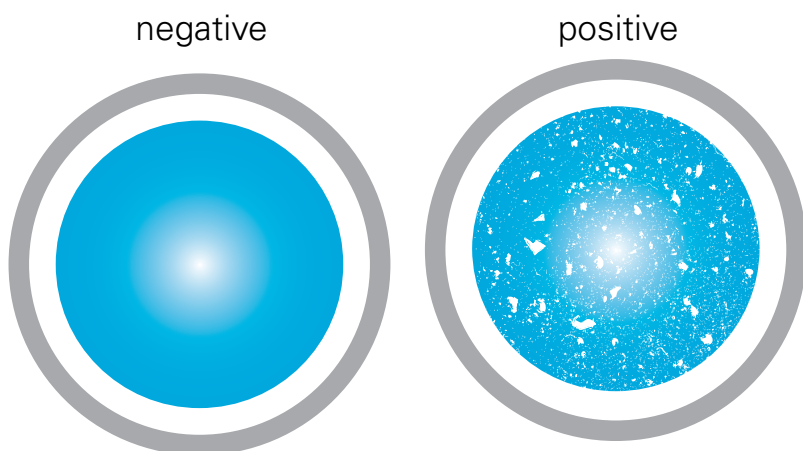
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Ab /Ag-mediated agglutination in a turbidimetric assay.

## LATEX AGGLUTINATION TESTS

Though not quantitative like instrumental (e.g. turbidimetric) diagnostic formats, traditional latex agglutination tests (LATs) are critical for field-, agronomic- and lab-based testing programs that rely on simple, rapid, and portable methods. The basis of the test is simple: classic LATs feature antigen-coated spheres that are mixed with the sample of interest. If present, the target is captured by and bridges the spheres. Because the surface density of the bead-immobilized antigen or antibody is carefully determined, the target causes agglutination.



Positive results are visibly apparent as the homogeneous suspension takes on a grainy or sandy appearance. Undyed ("white") spheres are often spotted on black cards, and dyed spheres may be applied to slides or white cards to visualize the agglutination reaction. Though conventional LATs are limited in terms of sensitivity and capacity for quantitation, variations featuring multiple populations of colored or fluorescent microspheres (that effect a color change with agglutination) have extended the capabilities of these easy-to-conduct and highly portable tests.

## REFERENCES

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## CARBOXYLATED POLYSTYRENE (CML)

Catalog Number	Nominal Diameter
PC02008	0.200 $\mu\text{m}$
PC02009	0.300 $\mu\text{m}$
PC02010	0.350 $\mu\text{m}$
PC02011	0.400 $\mu\text{m}$
PC03001	0.500 $\mu\text{m}$
PC03002	0.600 $\mu\text{m}$
PC03003	0.800 $\mu\text{m}$
PC03004	0.900 $\mu\text{m}$
PC04001	1.0 $\mu\text{m}$

## VISIBLE DYE COLOR PALETTE

Raspberry Purple

Crimson Red

Tangerine Orange

Basic Black

Slate Blue

Sapphire Blue

Cabo Blue

Shamrock Green

## DYED CARBOXYLATED POLYSTYRENE

Catalog Number	Dye	Nominal Diameter
DCCB001	Cabo Blue	0.20 $\mu\text{m}$
DCCR001	Crimson Red	0.20 $\mu\text{m}$
DCSG001	Shamrock Green	0.20 $\mu\text{m}$
DCBK001	Basic Black	0.20 $\mu\text{m}$
DCCB002	Cabo Blue	0.50 $\mu\text{m}$
DCCR002	Crimson Red	0.50 $\mu\text{m}$
DCCB004	Cabo Blue	1.00 $\mu\text{m}$
DCCR004	Crimson Red	1.00 $\mu\text{m}$
DCTA004	Tangerine Orange	1.00 $\mu\text{m}$
DCSG004	Shamrock Green	1.00 $\mu\text{m}$
DCCB005	Cabo Blue	5.00 $\mu\text{m}$
DCCR005	Crimson Red	5.00 $\mu\text{m}$
DCBK005	Basic Black	5.00 $\mu\text{m}$

We synthesize at scales that will carry you from R&D through manufacturing, and under an ISO 13485 Quality System that will meet your regulatory needs. Visit [BangsLabs.com](http://BangsLabs.com)



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