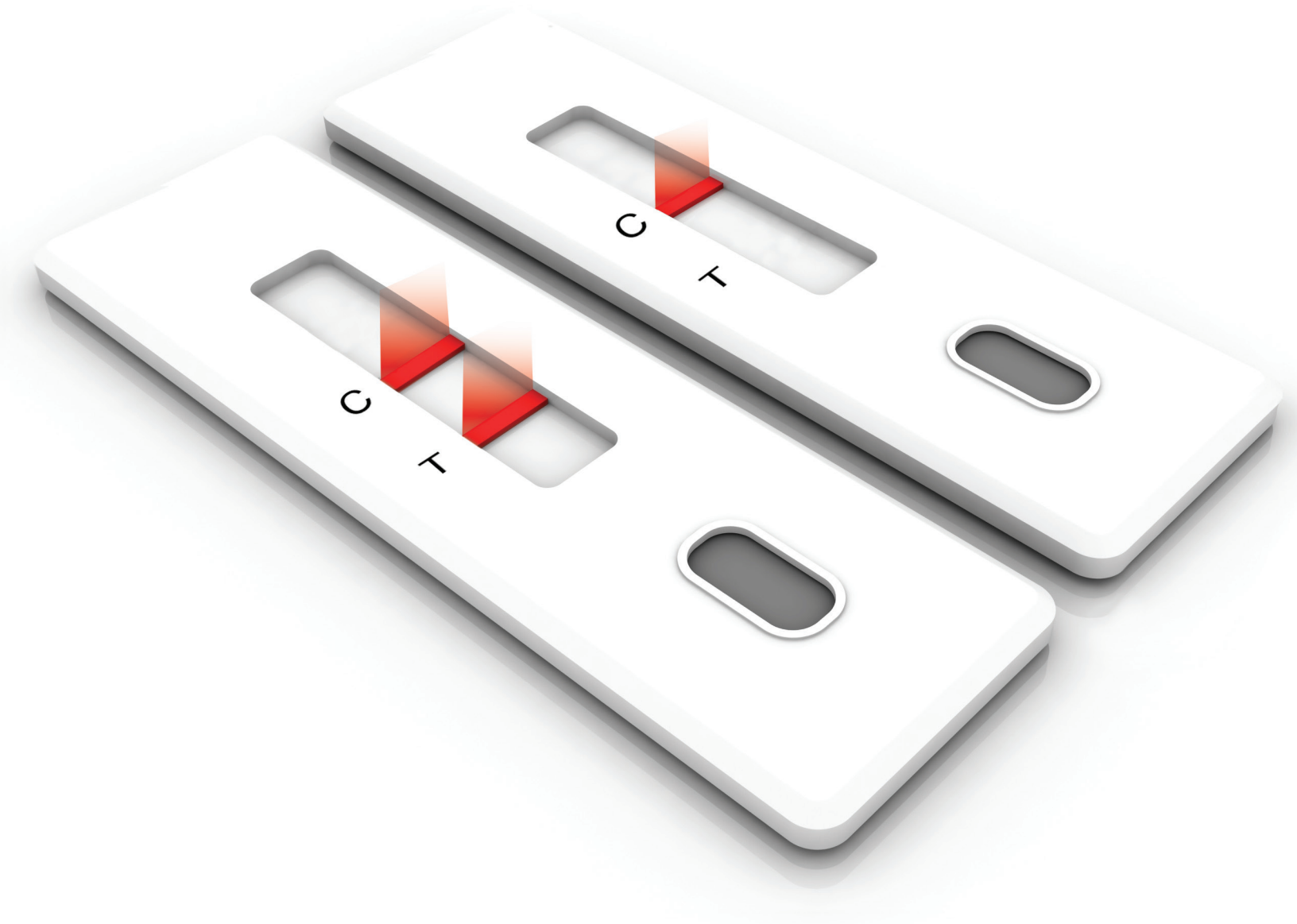
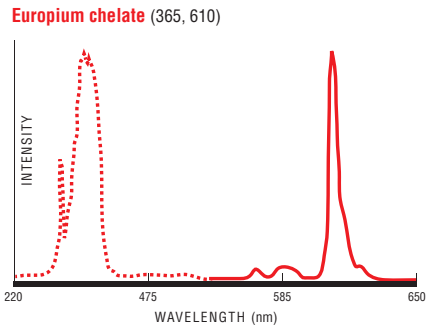
NANOPARTICLES FOR LATERAL FLOW



Bangs Labs

Beads Above The Rest

EUROPIUM CHELATE FOR LATERAL FLOW



EUROPIUM CHELATE	
Catalog Number	**Product Description**
FCEU001	0.10 µm PS-COOH Europium Chelate
FCEU002	0.20 µm PS-COOH Europium Chelate
FCEU003	0.30 µm PS-COOH Europium Chelate
FCEU004	0.40 µm PS-COOH Europium Chelate
21960	0.10 µm, 0.20 µm, 0.30 µm, 0.40 µm Europium Chelate COOH Sampler Pack

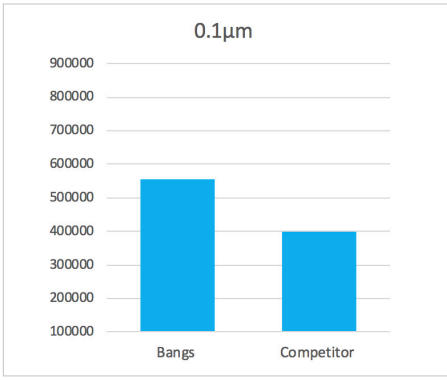
Lateral flow and other rapid tests fulfill important roles in the diagnostic landscape. Affordable and easy to use, they are particularly important for delivering diagnostic capability to programs with critical need, limited resources, or remote / de-centralized laboratories. While many significant tests have been developed using conventional particles (e.g. colloidal gold), the use of europium chelate (Eu[III]) nanoparticles has made it possible to develop rapid immunoassays that offer far greater sensitivity and quantitative results.

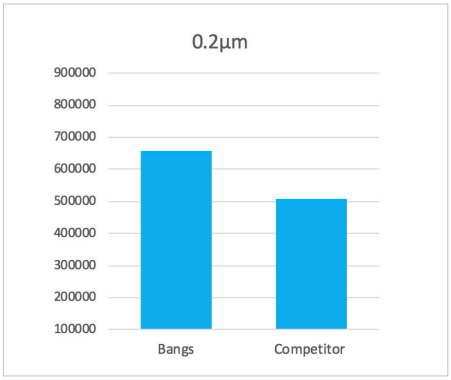
The europium chelate complex possesses a longer fluorescence lifetime (µs) than traditional fluorophores (ns), allowing signal to be collected beyond the lifetime of background fluorescence. Moreover, its long Stokes shift ensures that incident light from the excitation source (λ~330-340nm) does not interfere with collection of light by the detector (λ ~610-620nm). These traits, coupled with the availability of small, portable time-resolved fluorescence (TRF) readers, present new opportunities in the evolution of rapid diagnostics.

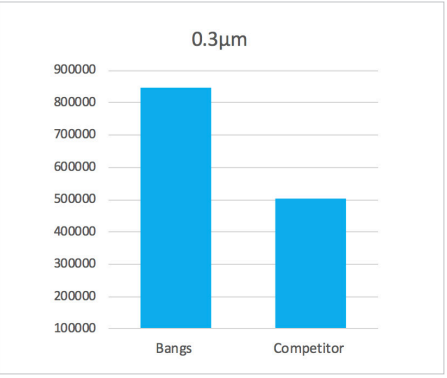
Our highly-fluorescent europium(III) nanoparticles offer exceptional functionality and stability for the development of diagnostic reagents. They have been utilized to develop highly sensitive assays in lateral flow and microplate formats, and are compatible with commercial europium chelate TRF readers. Carboxylated particles in nominal diameters of 0.10µm, 0.20µm, 0.30µm and 0.40µm or Sampler Packs are available. They are supplied in aqueous suspension at 1% solids (10mg/mL). See datasheet 741 for additional product details.

COMPARISON DATA

As shown below, Bangs' europium chelate microspheres exhibit exceptional fluorescence intensity levels when compared to the leading competitor (1:60,000 dilutions, 350nm excitation, 610nm detection).







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DYED MICROSPHERES FOR LATERAL FLOW

Visibly dyed microspheres are frequently used in lateral flow tests and "latex" agglutination tests. They are available in a range of intense colors that are suitable for visual or microscopic identification of positive test results. We offer polystyrene-based microspheres that are impregnated with vibrant dyes for optimal visualization. Non-functionalized and functionalized versions are available to support adsorption and covalent binding strategies.

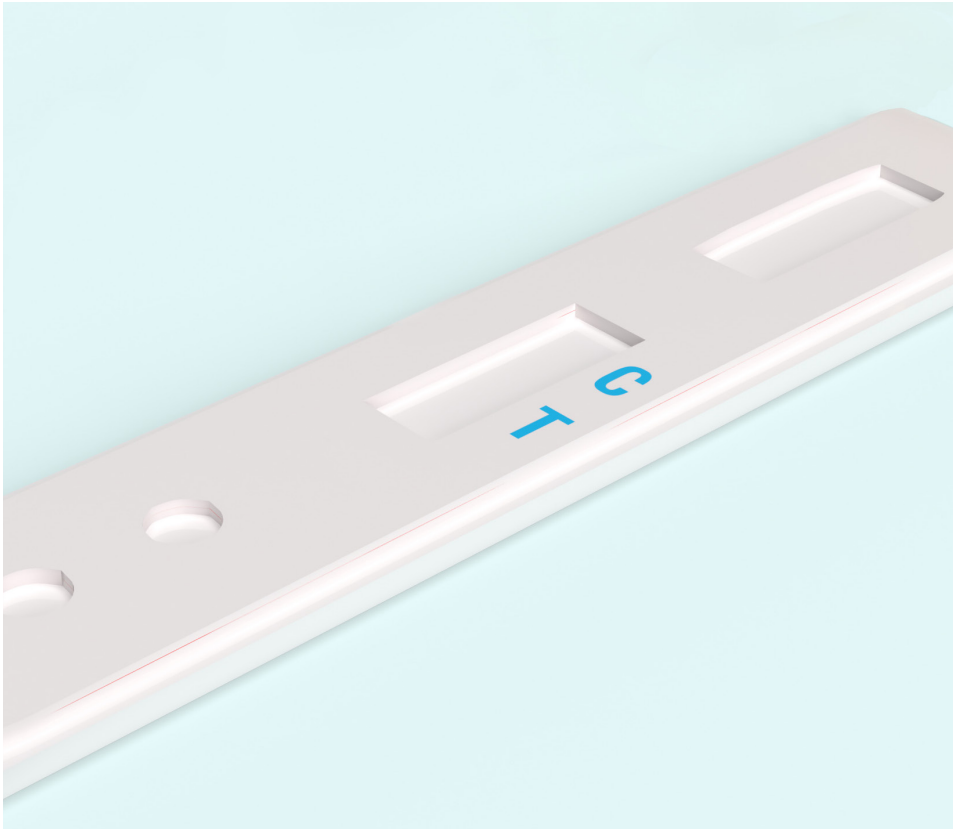
DYEING METHOD

Microspheres are internally labeled, and as such remain stable in aqueous systems. Internal labeling affords many benefits, including:

- high dye loading;
- availability of surface groups for coupling reactions;
- excellent stability;
- large selection of dyes;
- wide range of base bead sizes available, ~50nm-10µm, with larger diameters available on a custom basis.

CUSTOM SERVICES

Our custom capabilities include color matching, custom color formulation or use of the client's hydrophobic dye. Dyed spheres may also be coated (e.g. streptavidin) on a custom basis. We welcome inquiries regarding these and other types of projects. Please contact us to learn how we may be of assistance in formulating solutions to meet your specific requirements.



VISIBLE DYE COLOR PALETTE

- Raspberry Purple
- Crimson Red
- Tangerine Orange
- Basic Black
- Slate Blue
- Sapphire Blue
- Cabo Blue
- Shamrock Green

DYED POLYSTYRENE

Catalog Number	Product Description
DSCR001	0.050 µm Crimson Red
DSCB002	0.200 µm Cabo Blue
DSCR002	0.200 µm Crimson Red
DSSG002	0.200 µm Shamrock Green
DSCR003	0.300 µm Crimson Red
DSCR004	0.400 µm Crimson Red

DYED POLYSTYRENE CARBOXYL

Catalog Number	Product Description
DCCB001	0.20 µm Cabo Blue - COOH
DCCR001	0.20 µm Crimson Red - COOH
DCSG001	0.20 µm Shamrock Green - COOH
DCBK001	0.20 µm Basic Black - COOH
DCCB002	0.50 µm Cabo Blue - COOH
DCCR002	0.50 µm Crimson Red - COOH

DYED PROTEIN-COATED POLYSTYRENE

Catalog Number	Product Description
CDCR001	0.20 µm Crimson Red Streptavidin
CDCB001	0.20 µm Cabo Blue Streptavidin

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