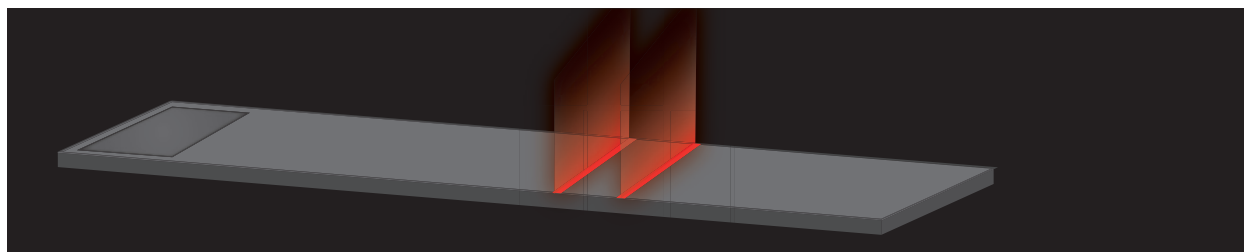


# Europium Chelate For Time-Resolved Fluorescence

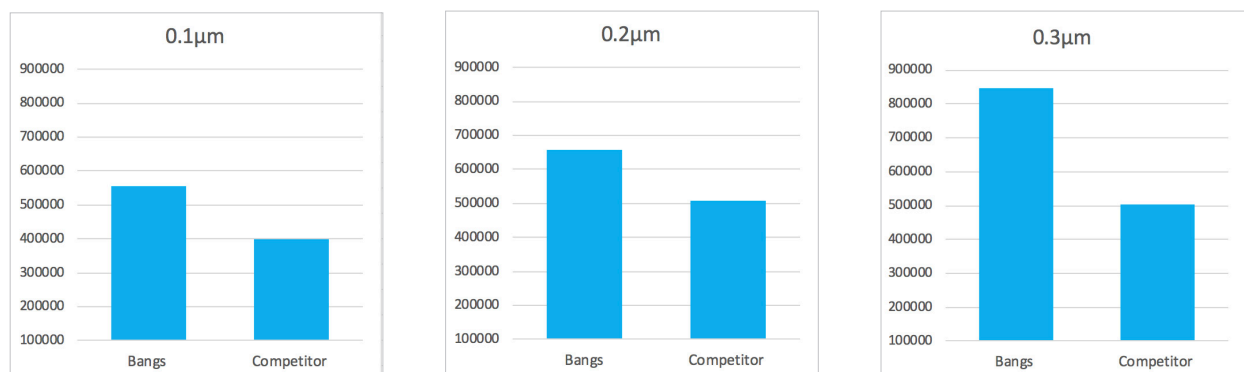
**Stable, high-intensity Eu nanoparticles for time-resolved and other fluorescence assays.**



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 ( $\mu\text{s}$ ) 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 ( $\lambda \sim 330\text{-}340\text{nm}$ ) does not interfere with collection of light by the detector ( $\lambda \sim 610\text{-}620\text{nm}$ ). 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. They are supplied in aqueous suspension at 1% solids (10mg/mL). See datasheet 741 for additional product details. The expiration date is 24 months from the date of shipment.



## 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). the compatibility of a specific dye or stain. Supplied at  $\sim 1\text{e}+7$  beads/mL. See Product Data Sheet 853 for more information.

## REFERENCES

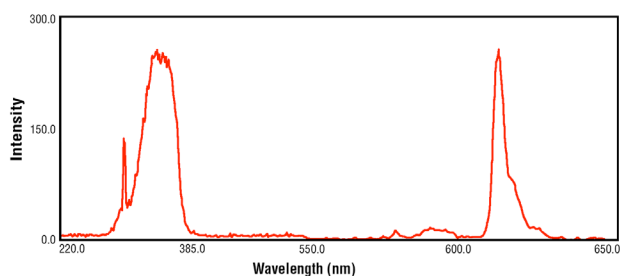
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## ORDERING INFORMATION

Cat. #	Description
FCEU001	0.10µm Europium Chelate COOH
FCEU002	0.20µm Europium Chelate COOH
FCEU003	0.30µm Europium Chelate COOH
FCEU004	0.40µm Europium Chelate COOH
21960	Europium Chelate COOH Sampler Pack 1mL of 0.10µm, 0.20µm, 0.30µm, 0.40µm

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