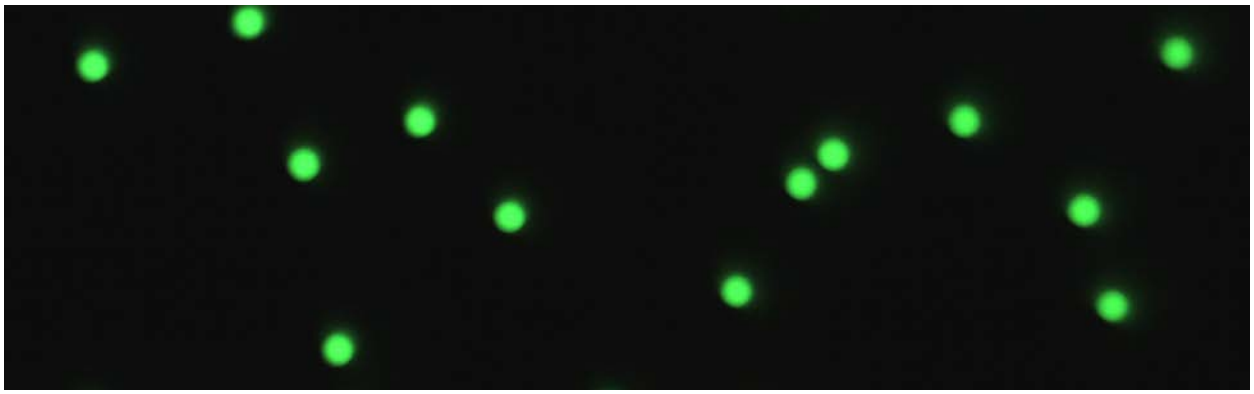
Fluorescent Microspheres

A Rainbow of Choices, providing a versatile platform for research and diagnostic applications.



7.3µm Dragon Green microspheres

FLUORESCENT MICROSPHERES

Fluorescent microspheres are a mainstay in diagnostics and life sciences research, finding use as fluorescent markers, assay substrates, and instrument standards. In order to meet the unique performance criteria required of microparticles in these different applications, Bangs Laboratories stocks an extensive array of fluorescent microspheres.

Internal versus External Labeling

Bangs Laboratories employs two dyeing techniques to fluorescently label microspheres: internal dyeing and surface-labeling. The two techniques produce beads with unique properties, each important for different applications.

Internal dyeing produces very bright and stable particles with typically narrow fluorescent CV's. With this strategy, surface groups remain available for conjugating ligands (proteins, antibodies, nucleic acids, etc.) to the surface of the bead, which is important for analyte-detection and immunoassay applications. Internally-dyed beads are also used extensively in imaging applications, as they display a greater resistance to photobleaching. Most of the fluorescent products in our standard catalog are internally-dyed.

Surface-labeling involves conjugation of the fluorophore to the particle surface, where it is able to interact with the environment, e.g. as do the fluorophore molecules on a stained cell. The result is a bead standard that exhibits the same excitation and emission properties as stained cell samples under a variety of different conditions, such as buffers at different ionic strength or pH. The "environmentally responsive" nature of surface-labeled microspheres makes them fitting surrogates for biological samples. Externally labeled microspheres are frequently used as controls and standards in flow cytometry applications.

Applications

Bangs Laboratories has developed fluorescent microspheres for use in a wide range of traditional and emerging applications, such as:

- Flow Cytometry
- Fluorescence Microscopy
- Diagnostics
- Filtration Studies
- Biosensors
- Phagocytosis Studies
- Velocimetry Studies
- Signal Enhancement

We also offer a number of specialty products optimized for performance in unique applications:

Our **Flow Cytometry Standards** division provides standards for instrument set-up and QC, as well as for quantitative flow cytometry and related applications. See the flow cytometry portion of our website for further product information.

QuantumPlex™ is an innovative bead kit designed for suspension array development. QuantumPlex allows for detection of up to 10 different analytes per sample or efficient screening of multiple samples. QuantumPlexM provides the added convenience of magnetic separation.

Fluorescence Intensity Standard kits for imaging applications contain five intensity populations that may serve as relative intensity standards for applications in fluorescence microscopy, or as bright intensity or linearity standards for flow cytometry. As internally-dyed beads, they are highly photostable and will stand up to the rigors of imaging.

Fluorescent Magnetic Microspheres have been utilized for cell labeling and tracking, and as assay substrates and instrument standards.

Custom Fluorescent Microspheres

If you do not see a product that meets your specific requirements, please inquire about our capabilities for customization. We offer custom dyeing and protein coating of polymeric and superparamagnetic microspheres, are able to manufacture custom intensities, and can accommodate OEM manufacturing and packaging requirements. See available fluorophores and spectra in the Technical Support portion of our website.

FLUORESCENT POLYSTYRENE

Cat. #	Product Description
FSDG001	0.05µm Dragon Green
FSFR001	0.05µm Flash Red
FSDG002	0.20µm Dragon Green
FSSY002	0.20µm Suncoast Yellow
FSFR002	0.20µm Flash Red
FSDG003	0.50µm Dragon Green
FSPP003	0.50µm Plum Purple
FSFR003	0.50µm Flash Red
FSDG004	1.00µm Dragon Green

FLUORESCENT POLYSTYRENE CONTINUED

Cat. #	Product Description
FSEG004	1.00µm Envy Green
FSPP004	1.00µm Plum Purple
FSFR004	1.00µm Flash Red
FSDG005	2.00µm Dragon Green
FSPP005	2.00µm Plum Purple
FSFR005	2.00µm Flash Red
FSDG006	4.00µm Dragon Green
FSEG006	4.00µm Envy Green
FSFR006	4.00µm Flash Red
FSDG007	7.5µm Dragon Green
FSSY007	7.5µm Suncoast Yellow
FSFR007	7.5µm Flash Red
FSEG008	10.0µm Envy Green
FSDG009	15.00µm Dragon Green
FSDG011	>25.00µm Dragon Green

FLUORESCENT CARBOXYL POLYSTYRENE

Cat. #	Product Description
FCDG001	0.05µm Dragon Green
FCFR001	0.05µm Flash Red
FCDG002	0.10µm Dragon Green
FCDG003	0.20µm Dragon Green
FCSG003	0.20µmSurf Green
FCFR003	0.20µm Flash Red
FCGB003	0.20µm Glacial Blue
FCDG004	0.40µm Dragon Green
FCFR004	0.40µm Flash Red
FCDG005	0.50µm Dragon Green
FCFR005	0.50µm Flash Red
FCDG006	1.0µm Dragon Green
FCEG006	1.0µm Envy Green
FCSY006	1.0µm Suncoast Yellow
FCGB006	1.0µm Glacial Blue
FCFR006	1.0µm Flash Red
FCSY007	2.0µm Suncoast Yellow
FCDG008	5.0µm Dragon Green
FCEG008	5.0µm Envy Green
FCGB008	5.0µm Glacial Blue
FCFR008	5.0µm Flash Red
FCDG009	10.0µm Dragon Green