

U.S. Corporate Headquarters 400 Valley Rd. Warrington, PA 18976 1(800) 523-2575 / (215) 343-6484 1(800)343-3291 fax info@polysciences.com Polysciences Europe GmbH Badener Str. 13 69493 Hirschberg an der Bergstrasse, Germany +(49) 06201-845200 +(49) 06201-8452020 fax info@polysciences.de Polysciences Asia-Pacific, Inc. 2F-1, 207 DunHua N. Rd. Taipei, Taiwan 10595 (886) 2 8712 0600 (886) 2 8712 2677 fax info@polysciences.tw

## **TECHNICAL DATA SHEET 915**

# Fluoresbrite<sup>®</sup> Europium Carboxylate Microspheres<sup>Page 1 of 1</sup>

### Catalog Numbers: 25488, 25489, 25490

#### DESCRIPTION

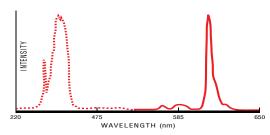
Despite the popularity of traditional fluorophores, distinguishing their signal from background autofluorescence can present a challenge in applications where extremely low detection limits are required. Whereas most fluorophores have pico- or nanosecond fluorescence lifetimes, compounds such as rare earth lanthanide chelates exhibit longer (microsecond) lifetimes, allowing fluorescence decay to be monitored over time. This technique provides a means to separate "true" fluorescence signal from short-lived background fluorescence, and an opportunity to improve assay sensitivity.

These same compounds are also characterized by long Stokes shifts, or intervals between fluorescence excitation and emission maxima. This property also lends itself to low background signal, and avoids regions of fluorescence overlap with other common reporters in multicolor assays.

Polysciences offers europium chelate microspheres in diameters of 0.1µm, 0.2µm and 0.3µm to address the needs of individual assays, including immunochromatographic and microwell-based formats. Our europium products offer extremely bright fluorescence (excitation: 365nm; emission: 610nm) and exceptional stability, in addition to well-functionalized carboxylated surfaces for the covalent attachment of ligand.

#### **CHARACTERISTICS**

Nominal Diameters: Supplied as: Excitation max: Emission max: 0.1µm, 0.2µm or 0.3µm 1% suspension in DI H<sub>2</sub>0 with 0.05% NaN<sub>3</sub> 365nm 610nm



#### **ORDERING INFORMATION**

Cat. #	Description	Sizes
25488	Fluoresbrite <sup>®</sup> Europium (Eu) Carboxylate Microspheres, 0.10µm	1ml, 5ml or 10ml
25489	Fluoresbrite <sup>®</sup> Europium (Eu) Carboxylate Microspheres, 0.20µm	1ml, 5ml or 10ml
25490	Fluoresbrite <sup>®</sup> Europium (Eu) Carboxylate Microspheres, 0.30µm	1ml, 5ml or 10ml
BLI 21960	Europium Chelate COOH Sampler Pack (1mL of 0.10µm, 0.20µm, 0.30µm)	1mL

#### **FURTHER READING**

- Liang R-L, Xu X-P, Liu T-C, Zhou J-W, Wang X-G, Ren Z-Q, Hao F, Wu Y-S. (2015) *Rapid and sensitive lateral flow immunoassay method for determining alpha fetoprotein in serum using europium (III) chelate microparticles-based lateral flow test strips*. Anal Chim Acta; 891:277-283.
- Soukka T, Paukkunen J, Härmä H, Lönnberg S, Lindroos H, Lövgren. (2001) Supersensitive time-resolved immunofluorometric assay of free prostate-specific antigen with nanoparticle label technology. Clin Chem; 47(4):(1269-1278)
- 3. Xia X, Xu Y, Ke R, Zhang H, Zou M, Yang W, Li Q. (2013) *A highly* sensitive nanoparticle-based lateral flow immunoassay for detection of chloramphenicol residue. Anal Bioanal Chem; 405(23):7541-4.

#### HANDLING, STORAGE AND SAFETY

- **Handling** Lanthanide chelate complexes are sensitive to and will lose fluorescence when exposed to high heat. Processes that generate heat should be tested and optimized to evaluate effects. Probe sonication should be avoided, and bath sonication should be used with caution.
- **Storage** Store at 4°C in the supplied opaque container. Freezing of particles may result in irreversible aggregation and loss of binding activity. The expiration date is 24 months from date of purchase, provided the product is handled in accordance with the manufacturer's recommendations.
- **Safety** This particle suspension contains sodium azide. Sodium azide may react with lead and copper plumbing to form explosive metal azides. Upon disposal of material, flush with a large volume of water to prevent azide accumulation. Please consult the Safety Data Sheet for more information.

## These products are for research use only and are not intended for use in humans or for *in vitro* diagnostic use.

#### **TO ORDER**

In The U.S. Call:	1(800) 523-2575 • (215) 343-6484
In The U.S. Fax:	1(800) 343-3291 • (215) 343-0214
In Germany Call:	+(49) 06201-845200
In Germany Fax:	+(49) 06201-8452020
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