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BIOCLEAN™ FLUORESCENT MICROSPHERES

Bioclean fluorescent microspheres were developed by Duke Scientific Corporation for biotechnology applications. Available in a range of sizes from 0.05 to 2.0 μ m and in green, red, and blue fluorescent colors, the new microspheres are prepared without surfactants or preservatives and are packaged in highly filtered, deionized water.

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Catalog Number		Nominal Diameter	Measured Values		Solids Content	Particle Surface Area Per ml	Typical Antib. Adsorption (Bovine IgG)
7ml	50ml		Mean Diam.	Uniformity			
Bioclean Microspheres—Green Fluorescent							
AG50	AG50B	0.05μm	0.057μm	<10%CV	1%	9987cm ²	0.18μg/cm ²
AG100	AG100B	0.1μm	0.096μm	<10%CV	1%	5527cm ²	0.23μg/cm ²
AG125	AG125B	0.125μm	0.128μm	<10%CV	1%	4447cm ²	0.26μg/cm ²
AG150	AG150B	0.15μm	0.145μm	<10%CV	1%	3926cm ²	0.26μg/cm ²
AG200	AG200B	0.2μm	0.202μm	<5%CV	1%	2818cm ²	0.15μg/cm ²
AG300	AG300B	0.3μm	0.294μm	<3%CV	1%	1936cm ²	0.24μg/cm ²
AG500	AG500B	0.5μm	0.501μm	<3%CV	1%	1136cm ²	0.27μg/cm ²
AG580	AG580B	0.58μm	0.577μm	<3%CV	1%	987cm ²	0.27μg/cm ²
AG600	AG600B	0.6μm	0.601μm	<3%CV	1%	947cm ²	0.31μg/cm ²
AG780	AG780B	0.8μm	0.778μm	<3%CV	1%	732cm ²	0.20μg/cm ²
AG0100	AG0100B	1.0μm	1.01μm	<5%CV	1%	564cm ²	0.20μg/cm ²
AG0210	AG0210B	2.0μm	2.12μm	<5%CV	1%	269cm ²	0.24μg/cm ²
AG0220	AG0220B	2.0μm	2.21μm	<5%CV	1%	258cm ²	0.21μg/cm ²
Bioclean Microspheres—Red Fluorescent							
AR50	AR50B	0.05μm	0.053μm	<10%CV	1%	10741cm ²	0.15μg/cm ²
AR100	AR100B	0.1μm	0.105μm	<10%CV	1%	5422cm ²	0.24μg/cm ²
AR200	AR200B	0.2μm	0.205μm	<5%CV	1%	2777cm ²	0.25μg/cm ²
AR300	AR300B	0.3μm	0.311μm	<3%CV	1%	1830cm ²	0.18μg/cm ²
AR530	AR530B	0.5μm	0.534μm	<3%CV	1%	1066cm ²	0.15μg/cm ²
AR600	AR600B	0.6μm	0.617μm	<3%CV	1%	923cm ²	0.33μg/cm ²
AR770	AR770B	0.8μm	0.775μm	<3%CV	1%	735cm ²	0.23μg/cm ²
AR0100	AR0100B	1.0μm	1.04μm	<5%CV	1%	550cm ²	0.19μg/cm ²
AR0200	AR0200B	2.0μm	1.95μm	<5%CV	1%	292cm ²	0.22μg/cm ²
Bioclean Microspheres—Blue Fluorescent							
AB100	AB100B	0.1μm	0.095μm	<10%CV	1%	5992cm ²	0.22μg/cm ²
AB150	AB150B	0.15μm	0.153μm	<10%CV	1%	3721cm ²	0.22μg/cm ²
AB200	AB200B	0.2μm	0.201μm	<5%CV	1%	2832cm ²	0.23μg/cm ²
AB300	AB300B	0.3μm	0.308μm	<3%CV	1%	1848cm ²	0.25μg/cm ²
AB500	AB500B	0.5μm	0.520μm	<3%CV	1%	1095cm ²	0.27μg/cm ²
AB675	AB675B	0.67μm	0.673μm	<3%CV	1%	846cm ²	0.26μg/cm ²
AB830	AB830B	0.8μm	0.829μm	<3%CV	1%	687cm ²	0.18μg/cm ²
AB0100	AB0100B	1.0μm	1.0μm	<5%CV	1%	569cm ²	0.22μg/cm ²
AB0180	AB0180B	1.8μm	1.84μm	<5%CV	1%	309cm ²	0.25μg/cm ²

Prices:	Package Size		Nominal Diameter (μ m)		
			0.05-0.49	0.5-0.99	1.0-2.99
	7ml		\$ 95.00	\$115.00	\$132.00
	50ml		\$445.00	\$535.00	\$615.00

The chemically clean surfaces of the microspheres permit strong adsorption of proteins, including antibodies, by hydrophobic interaction. The bright fluorescent dyes permit a variety of detection and assay methods including flow cytometry, fluorometry, and epifluorescence microscopy. Applications for protein coated microspheres include cell surface receptor marking, phagocytic cell studies, non-radioactive in vivo tracing, drug targeting, and immunodiagnostic research.

Antibody labeled BioClean spheres have more fluorescence intensity and are easier to detect and observe than antibody conjugated dyes, especially by epifluorescence microscopy. BioClean microspheres can be suspended in aqueous buffers without affecting the dye; however, excessive pH levels or ionic concentrations can promote clumping of the particles. The monodisperse spheres are made of polystyrene and can be used for any application requiring polystyrene latex particles. Polystyrene has a density of 1.05g/ml; the index of refraction is 1.59 @ 590nm and 25°C. Unlike conventional latex, neither the bead surfaces nor the suspension media require cleanup procedures for most applications.

The color guide below will help you select the right fluorescence parameters for your experiments. Dye compositions and production methods are proprietary information. BioClean Fluorescent Microspheres reflect Duke Scientific's experience in particle technology applied to biological research problems. Our product lines include particle size standards, non-fluorescent latex particles and a wide variety of research particles.

SPECTRAL PROPERTIES OF BIOCLEAN™ MICROSPHERES IN DEIONIZED WATER

Specified Color	Excitation Maxima (nm)	Emission Maxima (nm)	Stokes Shift (nm)
Green	469 (blue)	509 (green)	40
Red	541 (green)	611 (red)	70
Blue	365 (UV) 388 (UV-violet) 412 (violet)	446 (blue) 446 (blue) 473 (blue)	81 58 61

Authorized Distributor:

ORDERING INFORMATION: Order directly from Duke Scientific Corporation. Prices are f.o.b. Palo Alto. We routinely ship via 2nd Day UPS, freight prepaid and added to invoice. We can also ship via Federal Express with all charges collect; please provide your account number. We reserve the right to revise specifications or prices without notice.

LIMITED WARRANTY: These products are intended for laboratory research use by trained scientific personnel. Determination of their suitability for specific end-use is solely the responsibility of the user, who assumes all liability for loss or damage arising out of the use of the product. Duke Scientific Corporation's warranty is limited to replacement of defective products if returned with our authorization within 60 days of purchase date.