

Ferromagnetic Particles

- Manufactured by coating a layer of chromium dioxide and polystyrene onto polystyrene core particles
- Retain magnetism once exposed to a magnetic field
- Exhibits a higher magnetic moment than paramagnetic particles
- Have been used for magnetic twisting cytometry, microfluidics, and cellular labeling

Unlike paramagnetic particles that are made using iron oxide, SPHERO™ Ferromagnetic Particles are prepared using chromium dioxide coated onto uniform polystyrene particles. These particles retain magnetism once exposed to a magnetic field. The particles can be demagnetized and re-magnetized repeatedly and reproducibly. Ferromagnetic particles have been used for studying mechanotransduction across the cell surface and through the cytoskeleton. This is performed by binding them to cell surface receptors and applying mechanical stress directly to the receptor using a device to twist the magnetic particle.

SPHERO™ Amino Ferromagnetic Particles

Particle Type and Surface	Size, μm	% w/v	Catalog No.	Unit
Amino Ferromagnetic	4.0-4.5	1.0	AFM-40-10	10 mL

SPHERO™ Carboxyl Ferromagnetic Particles

Particle Type and Surface	Size, μm	% w/v	Catalog No.	Unit
Carboxyl Ferromagnetic	2.0-2.9	1.0	CFM-20-10	10 mL
Carboxyl Ferromagnetic	4.0-4.9	1.0	CFM-40-10	10 mL
Carboxyl Ferromagnetic	6.0-7.9	1.0	CFM-60-5	5 mL
Carboxyl Ferromagnetic	8.0-8.9	1.0	CFM-80-5	5 mL
Carboxyl Ferromagnetic Particles, Cross-linked, granules, non-uniform	$\sim 1-2 \mu\text{m}$	1.0	CFMX-10-10	10 mL

SPHERO™ Fluorescent Carboxyl Ferromagnetic Particles

Particle Type and Surface	Size, μm	% w/v	Catalog No.	Unit
Fluorescent Yellow Carboxyl Ferromagnetic	2.0-2.9	1.0	FCFM-2052-2	2 mL
Fluorescent Yellow Carboxyl Ferromagnetic	4.0-4.9	1.0	FCFM-4052-2	2 mL
Fluorescent Nile Red Carboxyl Ferromagnetic	4.0-4.9	1.0	FCFM-4056-2	2 mL

Figure 66 Histograms of Cat. No. CFM-40-10 (Carboxyl Ferromagnetic Particles, 1.0% w/v, 4.93 μm , 10 mL)

