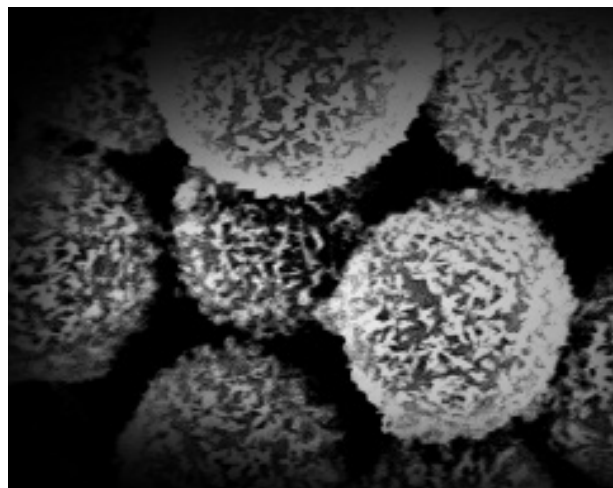


SPHERO™ Paramagnetic and Superparamagnetic Particles

- SPHERO™ Magnetic Microparticles provide high quality and reproducible results for your application
- Allow for rapid and reliable binding between the target and magnetic particle
- Consists of a uniform, monodispersed surface for optimal performance.

The SPHERO™ Magnetic Particles (Paramagnetic Particles) are prepared by coating a layer of iron oxide and polystyrene onto polystyrene core particles. The SPHERO™ Magnetic Particles are relatively uniform in size, spherical in shape and paramagnetic in nature. The paramagnetic nature of the particles allows them to be separated using a magnet and resuspended easily when removed from the magnet. They do not retain any significant magnetism even after repeat exposure to strong magnetic fields. For the maximum uniformity, of shape and size Spherotech offers SPHERO™ Highly Uniform Magnetic Particles in the 1 and 3µm size range.

The SPHERO™ Smooth Surface Magnetic Particles have a thick layer of polymer coating on the surface of the particles to fully encapsulate the iron oxide coating. There is no exposed iron oxide on the surface of the particles. These particles are paramagnetic. The SPHERO™ Smooth Surface Magnetic Particles are particularly useful in applications where exposed iron oxide may interfere with the enzymatic activities or cause other undesirable interferences. The SPHERO™ Magnetic Particles are used for cell separation, affinity purification, DNA probe assays, magnetic particle EIA, etc.

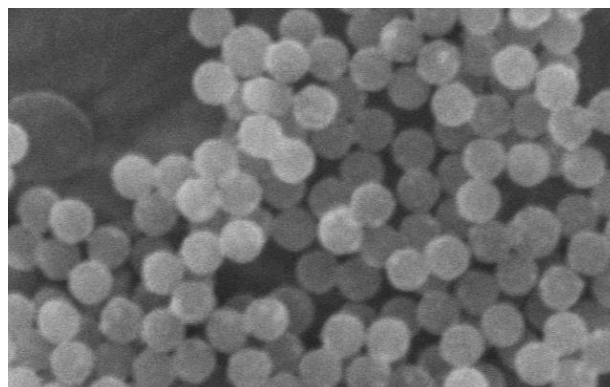


SEM of CM-80-10

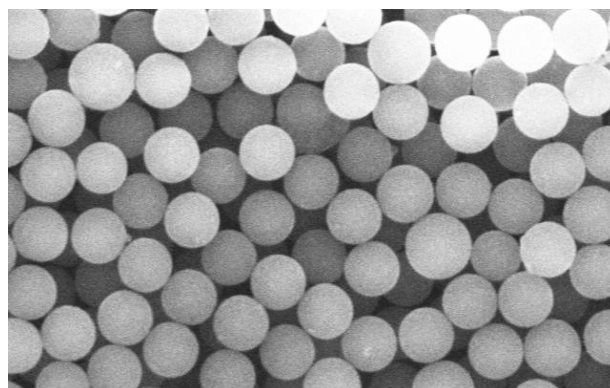
The SPHERO™ High Iron Superparamagnetic and Silica Magnetic Particles have significantly greater magnetite content (~40%). The large surface area combined with higher magnetite content make SPHERO™ High Iron Magnetic Particles ideal solid phase for use in cell separation, magnetic removal of microorganisms, viruses and cross reactants in serum, as well as, affinity purification applications.

SPHERO™ Silica Magnetic Beads are designed to binds RNA and DNA in the presence of chaotropic reagents or under mild acidic buffer conditions. They are positively charged and bind the negatively charged nucleic acids. In addition, they can be used with a variety of organosilane chemistry approaches to modify the surface of magnetic of the silica magnetic bead.

The SPHERO™ Cross-linked Magnetic Particles are prepared to render them resistant to common organic solvents such as acetone, acetonitrile, DMF and chloroform. Uniform diameters between 1 to 100 micron are available.



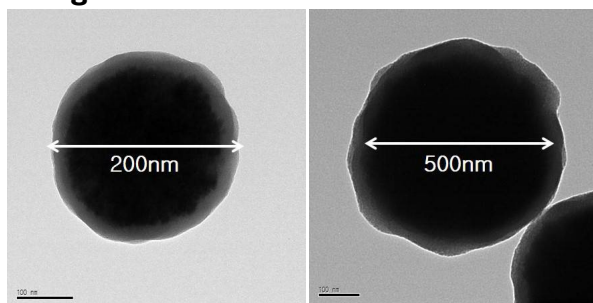
SEM of CMU-10-10 from a JEOL JCM-6000



SEM of CMU-30-10 from a JEOL JCM-6000

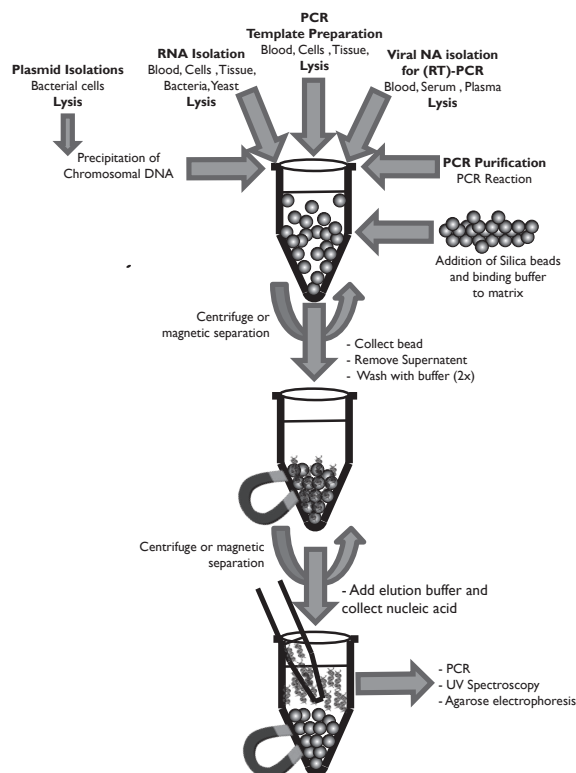
SPHERO™ Silica High Iron Nano Superparamagnetic Particles

- SPHERO™ Silica Superparamagnetic nanospheres are Fe₃O₄ magnetic beads coated with a silicon dioxide (SiO₂) layer
- Provides silanol groups to form stable siloxane linkages which are then used with a variety of organosilane chemistry approaches to modify the surface
- Useful in an array of applications such as covalent immobilization of proteins (e.g. antibodies, enzymes), peptides, nucleic acids or other molecules of interest
- Used to purify DNA or RNA under high concentration of chaotropic salts.

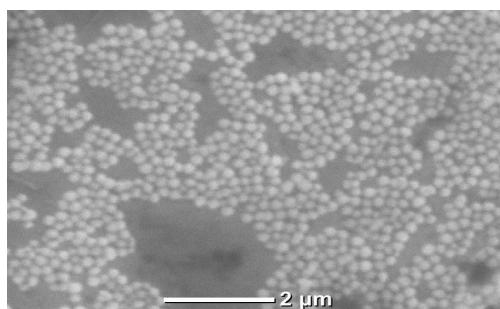


Images of SIM-025-10H and SIM-05-10H

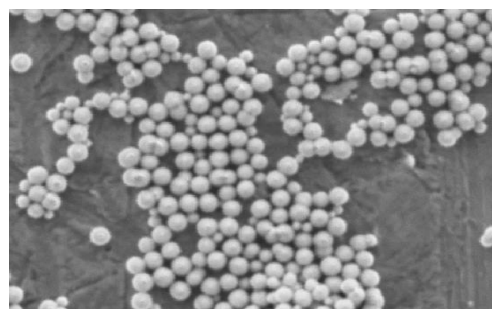
Particle Type and Surface	Size, μm	% w/v	Catalog No.	Unit
Silica Superparamagnetic	0.1-0.39	2.5	SIM-025-10H	10 mL
Silica Superparamagnetic	0.4-0.69	2.5	SIM-05-10H	10 mL
Silica Superparamagnetic	0.7-0.9	2.5	SIM-08-10H	10 mL
Silica Superparamagnetic	1.0-1.4	2.5	SIM-10-10H	10 mL
Amino Silica Superparamagnetic	0.1-0.39	2.5	ASIM-025-10H	10 mL
Amino Silica Superparamagnetic	0.4-0.69	2.5	ASIM-05-10H	10 mL
Carboxyl Silica Superparamagnetic	0.1-0.39	1.0	CSIM-025-10H	10 mL
Carboxyl Silica Superparamagnetic	0.4-0.69	1.0	CSIM-05-10H	10 mL
Epoxy Silica Superparamagnetic	0.1-0.39	1.0	ESIM-025-5H	5 mL
Epoxy Silica Superparamagnetic	0.4-0.69	1.0	ESIM-05-5H	5 mL
Aldehyde Silica Superparamagnetic	0.1-0.39	1.0	GLSIM-025-5H	5 mL
Aldehyde Silica Superparamagnetic	0.4-0.69	1.0	GLSIM-05-5H	5 mL
Azide Silica Superparamagnetic	0.1-0.39	1.0	AZSIM-025-5H	5 mL
Azide Silica Superparamagnetic	0.4-0.69	1.0	AZSIM-05-5H	5 mL



Silica Magnetic Beads DNA Purification Principle



SEM of SIM-025-10H from a JEOL JCM-6000



SEM of SIM-10-10H from a JEOL JCM-6000