Sera-Mag™ SpeedBeads protein A/G magnetic particles

PROTEIN ENRICHMENT

DOMINIQUE DUTSCHER SAS

Sera-Mag™ SpeedBeads protein A/G magnetic particles provide a fast and convenient method for manual and automated magnetic isolation of affinity bound antibodies or antigens to protein A/G (Fig 1). These particles can be used for isolating antibodies from serum, cell culture supernatant or ascites, and for immunoprecipitation and co-immunoprecipitation of antigens from cell or tissue extracts.

- Manual and automated magnetic isolation of IgG proteins
- Presence of protein A/G binding sites allows use of the broadest range of antibody species and sub-classes
- Lower non-specific binding for faster and cleaner purification
- Fast reaction kinetics increases throughput and precision, and also enables faster movement through viscous solutions
- Cauliflower-like surface provides a much larger area for binding reactions than smooth surface particles
- Uniform, nominal 1 µm diameter provides high surface area and excellent lot-to-lot reproducibility

Sera-Mag SpeedBeads protein A/G magnetic particles have a surface blocked and covalenty coupled to a recombinant protein A/G. Protein A/G contains four Fc-binding domains from protein A and two from protein G. By taking advantage of the affinity provided by both proteins, these particles are a flexible alternative to either protein A or protein G alone. The particles can be used with the broadest range of antibody species and subclasses, which makes these particles well suited for antibody purification immunoprecipitations, and co-immunoprecipitation applications.

Sera-Mag SpeedBeads protein A/G magnetic particles are uniform, nominal 1 µm diameter, colloidally stable, nonporous, superparamagnetic spheres made by a proprietary core-shell method.

The core of the particle is made by a free radical emulsion polymerization of styrene and acid monomer (Fig 2). Two layers of magnetite are coated onto this core, resulting in faster magnetic response times, while the surface is modified with a proprietary method that minimizes non-specific binding of proteins. Protein A/G is then covalently bound to the particle surface. To learn more about the Sera-Mag SpeedBeads protein A/G magnetic particles, please review the application note Sera-Mag SpeedBeads Magnetic Protein A/G Particles Applications Procedure (code no. 29-1079-14) available at www.cytiva.com/sera-mag.



Fig 1. SEM image showing the cauliflower-like surface of the Sera-Mag Magnetic SpeedBeads. The surface dramatically increases the overall surface area available for binding.

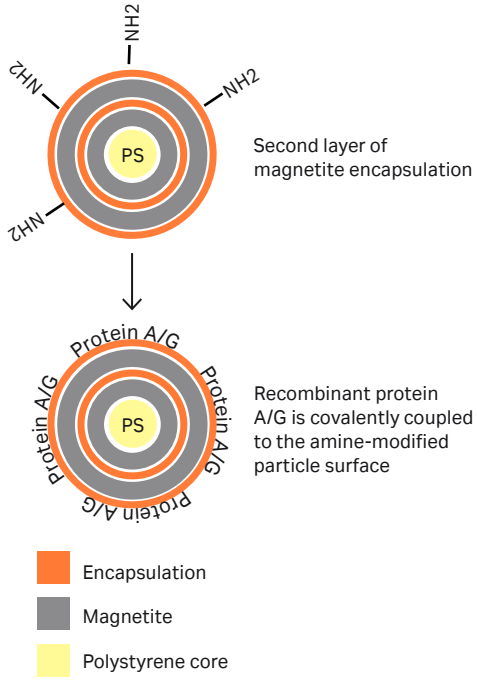


Fig 2. SpeedBeads are made by a modified Sera-Mag process in which a larger quantity of magnetite is added as a second layer within the particle, resulting in a 2×-faster increase in speed in response to magnetic field.

Specifications

Particle properties	
Particle composition	Double layer of magnetite
Surface	Amine-modified with protein A/G covalently bound to the surface
Density	~2.0 g/cm^3
Magnetite content	~60%

Protein surface	
Binding capacity	55-85 µg IgG bound per mg of particle
Number of binding sites	Recombinant protein A/G with 6 Fc binding sites
Isoelectric point	4.65

Product attributes	
Concentration	10 mg/mL
Magnetization	Superparamagnetic (no magnetic memory)
Nominal diameter	1 µm
Additives	0.05% sodium azide
Package includes	Certificate of Analysis/Packaging insert
Storage conditions	Unless otherwise stated, refrigerate (2°C to 8°C) product when not in use, but do not freeze. Store upright and keep bottle tightly sealed. Mix product with inversion by hand, roller, or vortex mixer.

Ordering information

Product	Quantity	Product code
Sera-Mag SpeedBeads protein A/G magnetic particles	1 mL	1715-2104-011150
Sera-Mag SpeedBeads protein A/G magnetic particles	5 mL	1715-2104-010150
Sera-Mag SpeedBeads protein A/G magnetic particles	100 mL	1715-2104-011350

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