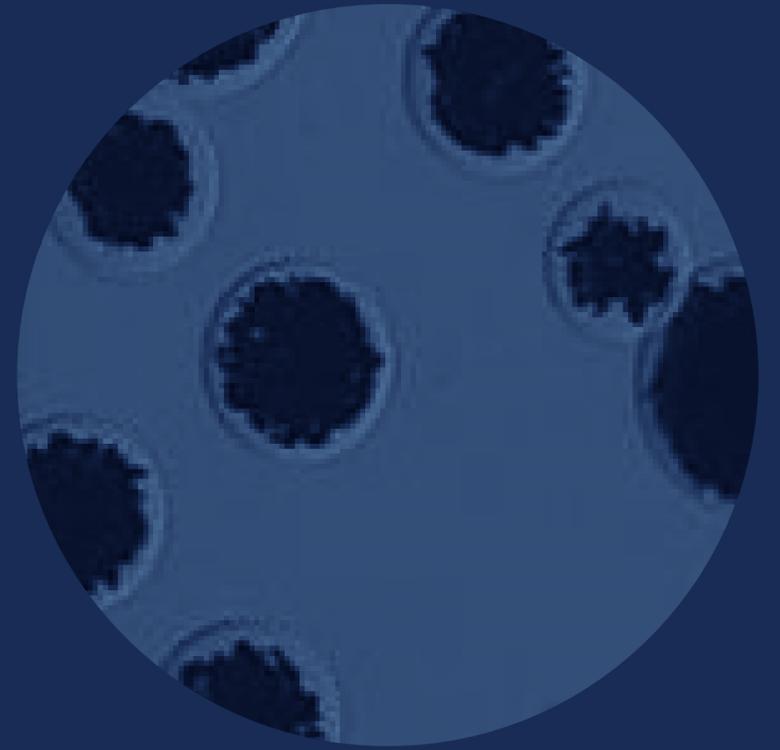
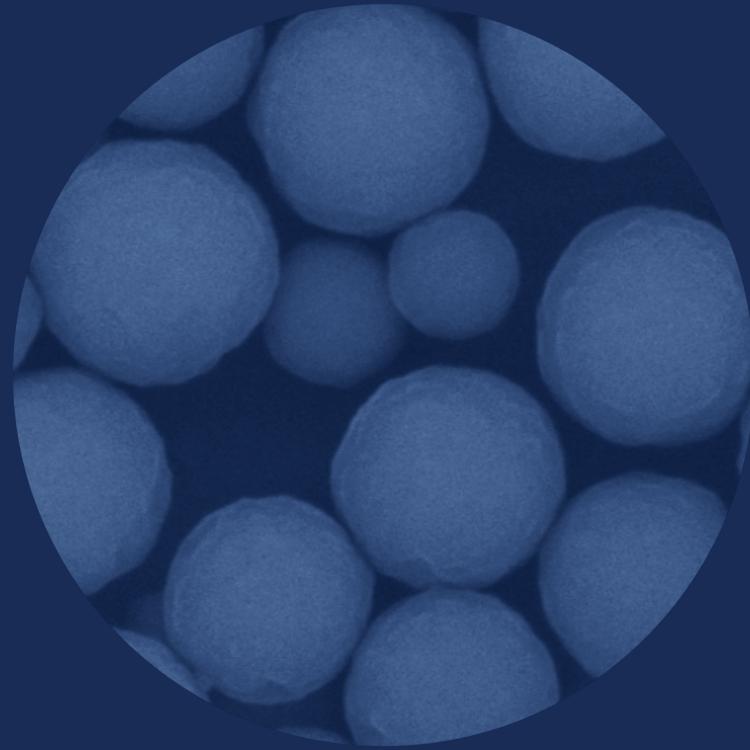
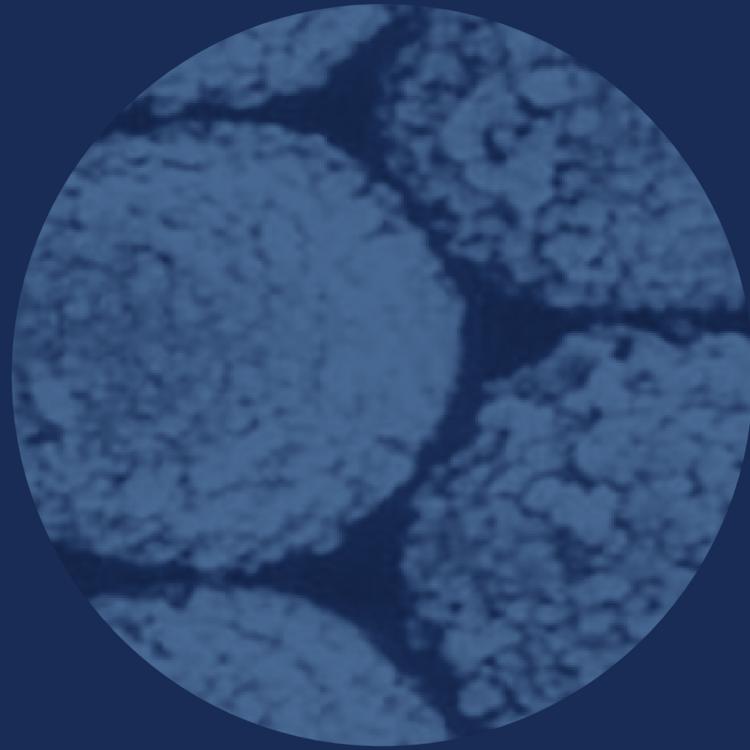
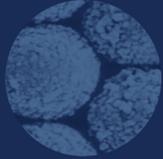
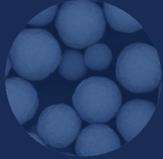


Selection guide

# Choosing the right magnetic beads



# Three types of magnetic particles available from Cytiva

	<b>Sera-Mag™ magnetic beads</b> 	<b>SeraSil-Mag™ silica beads</b> 	<b>Mag Sepharose™ magnetic beads</b> 
<b>Core material</b>	Carboxyl	Silica	Agarose
<b>Surface chemistry options</b>	<ul style="list-style-type: none"> <li>• Streptavidin coated/ Streptavidin blocked</li> <li>• Amine-blocked</li> <li>• Oligo (dT) coated</li> <li>• NeutrAvidin™</li> <li>• Protein A/G</li> </ul>	Silica (OH)	<ul style="list-style-type: none"> <li>• Streptavidin</li> <li>• Protein A or G</li> <li>• NHS</li> <li>• His</li> </ul>
<b>Size</b>	1 µm	400 nm and 700 nm	37–100 µm
<b>Size distribution</b>	Monodisperse	Monodisperse	Polydisperse
<b>Surface</b>	Solid but irregular (cauliflower like)	Uniform and spherical	Porous
<b>Capacity</b>	Medium	High	High
<b>Application focus</b>	<ul style="list-style-type: none"> <li>• Nucleic acid extraction and cleanup</li> <li>• Direct conjugation of ligands such as antibodies, enzymes, or oligos</li> <li>• mRNA purification</li> <li>• Enrichment of target nucleic acid sequences for NGS</li> <li>• Size selection of nucleic acids</li> <li>• Antibody purification with combined A/G affinities</li> </ul>	<ul style="list-style-type: none"> <li>• Traditional nucleic acid extraction using chaotropic salts</li> <li>• Existing Sera-Xtracta™ extraction kits use of SeraSil-Mag™ silica beads to deliver high quality performance</li> </ul>	<ul style="list-style-type: none"> <li>• Antibody purification, screening, immunoprecipitation, and pull-down</li> <li>• Direct conjugation of ligands such as antibodies, enzymes, and oligos</li> <li>• Affinity purification of histidine tagged recombinant proteins</li> </ul>

# Comparison of magnetic bead surface chemistries and applications

Type	Properties	Applications	Variations	Product	Pack size	Product code
<b>Sera-Mag™ magnetic beads</b>						
<b>Sera-Mag™ carboxylate-modified magnetic beads</b>	<p>Can associate with nucleic acids for direct capture</p> <p>Surface suitable for conjugation through covalent bonding</p> <p>Can capture molecules containing amino groups</p>	<p>Conjugation or direct binding applications:</p> <ul style="list-style-type: none"> <li>• Covalent attachment</li> <li>• Affinity purification and pull-down</li> <li>• Nucleic acid isolation and purification</li> <li>• NGS size selection</li> </ul>	<p>High-speed version available:</p> <ul style="list-style-type: none"> <li>• Sera-Mag™ SpeedBeads carboxylate-modified</li> </ul>	Sera-Mag™ Carboxylate-Modified [E3] Magnetic Beads	15 mL	44152105050250
					100 mL	44152105050350
					1000 mL	44152105050450
				Sera-Mag™ SpeedBead Carboxylate-Modified [E3] Magnetic Beads	15 mL	65152105050250
					100 mL	65152105050350
					1000 mL	65152105050450
				Sera-Mag™ Carboxylate-Modified [E7] Magnetic Beads	15 mL	24152105050250
					100 mL	24152105050350
					1000 mL	24152105050450
				Sera-Mag™ SpeedBead Carboxylate-Modified [E7] Magnetic Beads	15 mL	45152105050250
					100 mL	45152105050350
					1000 mL	45152105050450
<b>Sera-Mag™ amine-blocked magnetic beads</b>	<p>Surface suitable for conjugation through covalent bonding</p> <p>Non-surfactant, non-protein-blocked surface</p> <p>Low non-specific binding</p>	<p>Conjugation applications, similar to carboxylate-modified beads</p>	<p>High-speed version available:</p> <ul style="list-style-type: none"> <li>• Sera-Mag™ SpeedBeads amine-blocked</li> </ul>	Sera-Mag™ SpeedBeads Amine-Blocked Magnetic Beads	1 mL	19152104011150
					5 mL	19152104010150
					100 mL	19152104010350
<b>Sera-Mag™ Oligo(dT)-coated magnetic beads</b>	<p>Hybridizes with mRNA poly-A tails</p> <p>High colloidal stability</p>	<p>mRNA binding applications:</p> <ul style="list-style-type: none"> <li>• mRNA extraction and purification</li> <li>• RT-PCR</li> <li>• cDNA library construction</li> <li>• Subtractive hybridization</li> <li>• NGS (RNA sequencing)</li> </ul>		Sera-Mag™ Oligo (dT) Coated Magnetic Beads	1 mL	38152103011150
					5 mL	38152103010150
					100 mL	38152103010350

Type	Properties	Applications	Variations	Product	Pack size	Product code
<b>Sera-Mag™ streptavidin-coated magnetic beads</b>	<p>Binds biotinylated ligands such as proteins, nucleic acids, and peptides</p> <p>Covalently bound streptavidin coating</p> <p>Fast reaction kinetics</p> <p>Low non-specific binding</p> <p>High throughput and precision</p>	<p>Immunoassay and molecular biology applications:</p> <ul style="list-style-type: none"> <li>Sample preparation and assay development for genomics and proteomics</li> </ul>	<p>High-speed version available:</p> <ul style="list-style-type: none"> <li>Sera-Mag™ SpeedBeads streptavidin-coated</li> </ul> <p>Biotin binding ranges:</p> <ul style="list-style-type: none"> <li>2500 to 3500 pmol/mg</li> <li>3500 to 4500 pmol/mg</li> <li>4500 to 5500 pmol/mg</li> </ul>	Sera-Mag™ Streptavidin 2500 to 3500 (Low) pmol per mg Magnetic Beads	1 mL	30152103011150
				5 mL	30152103010150	
				100 mL	30152103010350	
				Sera-Mag™ Streptavidin 3500 to 4500 (Med.) pmol per mg Magnetic Beads	1 mL	30152104011150
				5 mL	30152104010150	
				100 mL	30152104010350	
				Sera-Mag™ Streptavidin 4500 to 5500 (High) pmol per mg Magnetic Beads	1 mL	30152105011150
				5 mL	30152105010150	
				100 mL	30152105010350	
				Sera-Mag™ SpeedBeads Streptavidin 3500 to 4500 (Med.) pmol per mg	1 mL	66152104011150
				5 mL	66152104010150	
				100 mL	66152104010350	
<b>Sera-Mag™ streptavidin-blocked magnetic beads</b>	<p>Binds biotinylated ligands such as proteins, nucleic acids, and peptides</p> <p>Non-surfactant, non-protein-blocked surface</p> <p>Lower non-specific binding than streptavidin-coated beads via additional blocking of non-specific binding sites</p>	<p>High-specificity biotin binding applications: molecular and immunodiagnostics</p> <p>NGS library preparation</p>	<p>High-speed version available:</p> <ul style="list-style-type: none"> <li>Sera-Mag™ SpeedBeads streptavidin-blocked</li> </ul>	Sera-Mag™ SpeedBeads Streptavidin-Blocked Magnetic Beads	1 mL	21152104011150
				5 mL	21152104010150	
				100 mL	21152104010350	
<b>Sera-Mag™ NeutrAvidin™-coated magnetic beads</b>	<p>Binds biotinylated ligands such as proteins, nucleic acids, and peptides</p> <p>Fast reaction kinetics</p> <p>Low non-specific binding</p> <p>High throughput and precision</p>	<p>Alternative to Streptavidin in immunoassay and molecular biology applications:</p> <ul style="list-style-type: none"> <li>Sample preparation and assay development for genomics and proteomics</li> </ul>	<p>High-speed version available:</p> <ul style="list-style-type: none"> <li>Sera-Mag™ SpeedBeads NeutrAvidin™-coated</li> </ul> <p>Biotin binding range:</p> <ul style="list-style-type: none"> <li>3500 to 4500 pmol/mg</li> </ul>	Sera-Mag SpeedBeads NeutrAvidin™-Coated Magnetic Beads	1 mL	78152104011150
				5 mL	78152104010150	
				100 mL	78152104010350	

Type	Properties	Applications	Variations	Product	Pack size	Product code	
<b>Sera-Mag™ protein A/G magnetic beads</b>	Binds IgA and IgG proteins	Antibody isolation applications:		Sera-Mag SpeedBeads Protein A/G Magnetic Beads	1 mL	17152104011150	
	Coating based on IgA/IgG fusion protein	<ul style="list-style-type: none"> <li>Affinity purification and pull-down</li> </ul>			5 mL	17152104010150	
	Broad binding capabilities	<ul style="list-style-type: none"> <li>Immunoprecipitation</li> </ul>			100 mL	17152104010350	
<b>SeraSil-Mag™ silica beads</b>							
<b>SeraSil-Mag™ silica-coated magnetic beads</b>	Reversibly binds nucleic acids based on salt concentration	Applications with low sample amounts	Available in 400 µm or 700 µm particle sizes	SeraSil-Mag™ 400 Silica Beads	5 mL	29357369	
					60 mL	29357371	
					450 mL	29357372	
					1000 mL	29705862	
	Monodisperse particles with narrow size ranges	Nucleic acid extraction for molecular diagnostics applications such as qPCR			SeraSil-Mag™ 700 Silica Beads	5 mL	29357373
						60 mL	29357374
						450 mL	29357375
						1000 mL	29705861
<b>Mag Sepharose™ magnetic beads</b>							
<b>His-Mag Sepharose™ Ni magnetic beads</b>	Highly cross-linked spherical agarose (Sepharose), including magnetite IMAC immobilized with nickel	Small-scale purification and screening of histidine-tagged proteins from different sources			2 × 1 mL	28967388	
					5 × 1 mL	28967390	
					100 mL	29104065	
<b>His Mag Sepharose™ excel magnetic beads</b>	Strip resistant ligand with strongly bound nickel for immobilized metal ion affinity chromatography (IMAC)	Small-scale capture and purification of histidine-tagged proteins secreted into eukaryotic cell culture supernatants		His Mag Sepharose™ excel Beads	2 × 1 mL	17371220	
					5 × 1 mL	17371221	
					10 × 1 mL	17371222	
<b>NHS Mag Sepharose™ magnetic beads</b>	Coupling of antibodies, aptamers, and proteins through primary amino groups on the molecules to the NHS ligand on NHS Mag Sepharose™	Enrichment of target protein for further downstream analyses such as mass spectrometry (MS) and electrophoresis techniques		NHS Mag Sepharose™ Beads	500 µL	28944009	
					4 × 500 µL	28951380	

Type	Properties	Applications	Variations	Product	Pack size	Product code
<b>Protein A Mag Sepharose™ magnetic beads</b>	Maximum binding capacity due to dense coating of Protein A	Enrichment of target proteins via immunoprecipitation or pull-down assays		Protein A Mag Sepharose™ Beads	500 µL	28944006
	Optimized capacity for enrichment or immunoprecipitation requiring only low amounts of antibody needed	Optimised for downstream analyses such as mass spectrometry (MS) and electrophoresis techniques			4 × 500 µL	28951378
<b>Protein A Mag Sepharose™ Xtra magnetic beads</b>	Maximum binding capacity due to dense coating of Protein A	High capacity small-scale purification and screening of monoclonal and polyclonal antibodies from various species		Protein A Mag Sepharose™ Xtra Beads	2 × 1 mL	28967056
					5 × 1 mL	28967062
<b>Protein G Mag Sepharose™ magnetic beads</b>	Maximum binding capacity due to dense coating of Protein G	Enrichment of target proteins via immunoprecipitation or pull-down assays		Protein G Mag Sepharose™ Beads	500 µL	28944008
	Optimized capacity for enrichment or immunoprecipitation requiring only low amounts of antibody needed	Optimised for downstream analyses such as mass spectrometry (MS) and electrophoresis techniques			4 × 500 µL	28951379
<b>Protein G Mag Sepharose™ Xtra magnetic beads</b>	Maximum binding capacity due to dense coating of Protein G	High capacity small-scale purification/screening of monoclonal and polyclonal antibodies from various species		Protein G Mag Sepharose™ Xtra Beads	2 × 1 mL	28967066
					5 × 1 mL	28967070

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