AMG™ Streptavidin Particles, 1 µm

AI-SMPSAMP-04.00

AMG™ Streptavidin Magnetic Particles utilise Mix&Go™ coating technology to stably bind streptavidin to functionalised polymer magnetic particles. AMG Streptavidin Magnetic Particles provide enhanced loading capacity for the capture and detection of low concentrations of biotinylated target molecules, with a large dynamic range. The particles are provided fully loaded with streptavidin and are ready to use.

Materials Supplied	
Cat. No.	Component
A-SMPSAMP	AMG™ Streptavidin Particles, 1 µm

Additional Materials Required
Biotinylated protein Pipettes Coupling Buffer (PBS pH 7.4) Storage Buffer (TBS pH 8.0) Magnetic separator for tubes Tube rotator Vortex mixer Microcentrifuge for 1.5 mL tubes 1.5 mL microcentrifuge tubes

Specifications	
Ordering Information	A-SMPSAMP-1 (1 mL) A-SMPSAMP-2 (2 mL) A-SMPSAMP-5 (5 mL)
Storage	Store at 2°C - 8°C. Remaining materials should be retained in the supplied container and sealed for future use.
Stability	Particles coupled by the user should be assessed for individual use and storage stability conditions, as this can vary depending on the protein and conditions used.
Applications	AMG Streptavidin Magnetic Particles are suitable for a range of fluorescent and chemiluminescent assays and purification applications using biotinylated capture molecules including biotinylated peptides, antigens, antibodies, DNA and oligonucleotides.
Supplied Surface	Particle: 1 µm, Superparamagnetic, 40% Magnetite. Concentration: 10 mg/mL (1% w/v solids).
Additives	Product contains ProClin® 300 as preservative.
Regulatory	For laboratory use only.

Compatibility	
Buffers	Particles are compatible with the majority of existing buffers. This allows for easy substitution of AMG Streptavidin Magnetic Particles into your application of choice. The example procedure below uses PBS pH 7.4 for Coupling and TBS pH 8.0 for Storage.
Tubes	It is recommended to use low binding polypropylene microcentrifuge tubes.
Temperature	Do not freeze or expose to temperatures exceeding 60ºC. Room temperature is defined as 20ºC - 25ºC.
Protein Concentration	Protein coupling concentration is best optimised as this can vary depending on the protein used. The recommended starting concentration range for coupling antibody is 25 - 100 µg/mg particles, with a determined maximal binding capacity up to 30 µg/mg particles.
Magnet	When separating magnetic particles from supernatant, it is recommended to put the tube containing the particles on the magnetic separator until the supernatant is clear (up to 5 minutes), and carefully remove the supernatant so as not to disturb the particle pellet. Low strength magnets may take longer to form a pellet or may leave residue on the tube.

Safety
Standard safety precautions exercised when handling laboratory reagents should be adhered to. Refer to the MSDS for safety precautions.

Other Products
For more information on Anteo products please visit www.anteotech.com.

Warnings/Hazards
The user must determine the suitability of the product for specific uses.

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Example Procedure		Time
Coupling Preparation		
1.	Allow all components to come to room temperature	
2.	Vortex particles	10 seconds
3.	Aliquot 100 µL (1 mg) of 1 µm AMG™ Streptavidin Particles (Cat. No. A-SMPSAMP) to a 1.5 mL tube	
Washing with Coupling Buffer		
4.	Pulse the tube in a microcentrifuge to ensure particles are at the bottom of the tube before separation	
5.	Place the tube on the magnetic separator	1 minute
6.	Remove and discard the supernatant from the tube and then remove the tube from the magnet	
7.	Resuspend the particles in 100 µL of coupling buffer and vortex	10 seconds
8.	Repeat washing steps for a total of 2 washes	
Coupling		
9.	Prepare 100 µL of biotinylated antibody at the required concentration in coupling buffer	
10.	Pulse the tube in a microcentrifuge to ensure particles are at the bottom of the tube before separation	
11.	Place the tube on the magnetic separator	1 minute
12.	Remove and discard the supernatant from the tube and then remove the tube from the magnet	
13.	Resuspend the particles in 100 µL of the prepared biotinylated antibody coupling buffer and vortex on high	10 seconds
14.	Incubate at room temperature on a tube rotator to keep the particles in suspension	30 minutes
Washing with Storage Buffer		
15.	Vortex particles	10 seconds
16.	Pulse the tube in a microcentrifuge to ensure particles are at the bottom of the tube before separation	
17.	Place the tube on the magnetic separator	5 minutes
18.	Remove and discard the supernatant from the tube and then remove the tube from the magnet	
19.	Resuspend the particles in 100 µL of storage buffer and vortex	10 seconds
20.	Repeat washing steps for a total of 2 washes	
Storage		
21.	Place the tube on the magnetic separator	5 minutes
22.	Remove and discard the supernatant from the tube and then remove the tube from the magnet	
23.	Resuspend the particles in 100 µL of storage buffer and vortex	10 seconds
ⓘ	Particles may be used immediately or stored at 2°C - 8°C. Final particle concentration is 10 mg/mL.	

Observations	
The inter-assay CV and intra-assay CV is assessed for every batch of particles manufactured, with a CV% of < 15% achieved for all batches. The binding capacity of the biotinylated IgG gives an indication of the amount of useable reagent that can be captured by this product. The fluorescent loading assay is another indicator of binding capacity in a different type of assay system. The RPE dye used is a large molecule (~260 kDa), which also gives indications into the functional applicability of these particles. The signal to noise ratio is a measure of background responses relative to analyte response. This value indicates the extent of interference that the components of the assay may have on the signal/response to the analyte and measures the impact on the response. The monodispersity of particles refers to the level of aggregation. As particles aggregate, the percent monodispersity decreases. AMG Streptavidin Magnetic Particles are assessed by microscopy to determine the level of monodispersed particles.	
Binding capacity (Biotin-IgG)	30 µg/mg particles
Fluorecent loading (Biotin-RPE)	7,000 MFI
Signal to noise at 100 µg/mg particles Biotin-RPE	> 1,300
Monodispersity	> 90%