MagVigen™ - Streptavidin Nanobeads/Kits

Cat# 21005P / K21005P

Product Description

MagVigen™-Streptavidin magnetic nanoparticles can universally bind to any biotinylated biomolecules (ex. antibody, protein, peptide) through high affinity interaction between streptavidin and biotin. The MagVigen™-Streptavidin-biotin-biomolecule complex can be easily separated from unbound biotin-biomolecule using a magnetic rack (Cat#A20006). This provides a quick and neat way to tag biomolecules with magnetic nanoparticles. The purified nanoparticle-biomolecule complex can be used in a variety of downstream bio-separation processes (ex. protein purification, immunoprecipitation, cell isolation or depletion, and molecular detection.)

Advantages of MagVigen™ - Streptavidin for Molecular and Cellular enrichment

- Easy and quick to make nanoparticle-primary antibody conjugates
- Consistent, high quality results
- High binding capacity, 25 µg biotin-antibody per mg of nanoparticles
- High biocompatibility
- Low non-specific binding

Product Contents

- MagVigen™- Streptavidin (Cat# 21005P) are provided in phosphate buffered saline (PBS) containing 0.05% NaN_3, 0.1% BSA. pH 7.4. Each vial contains 1 ml of solution with particle concentration of 2 mg/ml, which is enough for binding 50 µg of biotin-antibody.

  Nanoparticle size: ~ 200 - 500 nm measured using Dynamic Light Scattering.

  Polydispersity index: ~ 0.2.

  Capacity: 50µg biotin-antibody/ml of nanoparticles

In K21005P:

- 1X Wash Buffer: 4 ml

All materials except the magnet should be stored at 4°C for up to 6 months.

Protocol

Immunoprecipitation

Nanoparticle Wash
For optimal results from the nanoparticles, it is recommended that the nanoparticles are washed prior to addition to samples.

1. Vortex MagVigen™ nanoparticles for 10-20 seconds.
2. Take 40µl of nanoparticle solution, add it to 100µl 1X Washing Buffer or your assay buffer, and vortex to mix.
3. Separate the nanoparticles from the solution by placing the magnet on the side of the tube for 2-5 min and remove the supernatant carefully (with magnet still on the side).
   Note: A clear precipitate containing dark brown colored nanoparticles should become visible on the side of the microcentrifuge tube.
4. Re-suspend beads in 40 ul of PBS or lysis buffer.

Immunoprecipitation

5. Add 2 µg of biotin-antibody (or recommended amount following individual protocol) to the tube containing cell lysate.
6. Incubate for an hour at 4°C.
7. Add 40µl of pre-washed MagVigen™ Streptavidin nanoparticles to the tube. Rotate for 2 hours at 4°C.
8. Separate the nanoparticles from sample solution (cell lysate) with magnet. Remove supernatant.
9. Wash the nanoparticles 2 times with 40µl of 1X Wash Buffer or lysis buffer used.
10. After the last wash, remove the supernatant and add 50µl of 1XSDS sample buffer and pipette to mix. Heat for 5 minutes at 100°C. Magnetically separate nanoparticles from the solution. Load the supernatant onto a gel.