[Cat. No.] TB-1015-1

Introduction

AccuNanoBead™ Streptavidin Magnetic NanoBeads are silica beads conjugated with high purity (>95%) streptavidin which allows binding to biotinylated molecules. This product can be used for immunoprecipitation, protein interaction, and immobilize of biotinylated antibodies and nucleic acids.

Features & Benefits

- Outstanding efficiency: Minimized loss through a strong magnetism out of magnetic nanobeads.
- Large binding capacity: Magnetic nanobeads with an average diameter of 200 nm gives rise to large surface areas for binding.
- High specificity: Reduced non-specific binding by using homogeneous spherical magnetic nanobeads.

Components

Components	Amount
AccuNanoBead™ Streptavidin Magnetic NanoBeads	50 mg/5 ml

*** Note:** For research use only. Not for use in diagnostic or therapeutic procedures.

Materials to be Prepared by User

PBS buffer	137 mM NaCl, 2.7 mM KCl, 10 mM Na_2HPO_4, 2 mM KH_2PO_4, pH 7.4
Binding and Washing(B&W) buffer (For nucleic acid)	10 mM Tris-HCl (pH 7.5), 1 mM EDTA, 2 M NaCl
Nucleic acid elution buffer	10 mM EDTA, pH8.2, 95% formamide
Protein/Antibody elution buffer	0.1M Glycine-HCl, pH 2.5
Neutralization buffer	1 M Tris-HCl, pH 9.0
Nd magnet or Magnetic separation rack (Cat. No. TM-1010)	

*** Note:** Buffer could be changed depending on user's needs.

Specifications

AccuNanoBead™ Streptavidin Magnetic NanoBeads	
Composition	Silica based magnetic nanobeads
Binding capacity	Free Biotin: ~ 7000 pmol/mg of beads dsDNA: ~10 μg
Size	Average 200 nm
Concentration	50 mg/5 ml

Storage Buffer

AccuNanoBead™ Streptavidin Magnetic NanoBeads are supplied in 1X phosphate buffered saline (PBS) buffer (137 mM NaCl, 2.7 mM KCl, 10 mM Na_2HPO_4, 2 mM KH_2PO_4, pH 7.4), 0.05% Tween20, 0.1% Sodium azide.

Storage

Store at 2-8°C.

Expired date

Indicated on the label.

Precautions

- Do not freeze and vigorously vortex *AccuNanoBead*™ Streptavidin Magnetic NanoBeads.
- An exact protocol may need to be optimized by the user.

Online Resources

Korean **English**

Visit our **product page** for additional information and protocols.

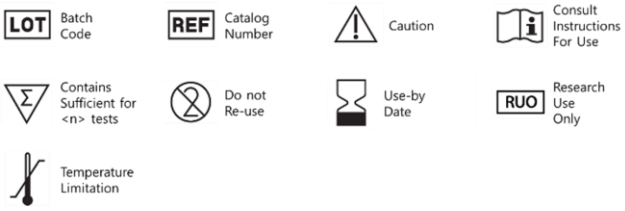
Ordering Information

Description	Cat. No.
AccuNanoBead™ Streptavidin Magnetic NanoBeads	TB-1015-1

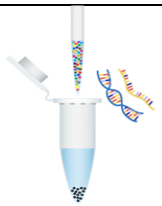
Notice

BIONEER corporation reserves the right to make corrections, modifications, improvements and other changes to its products, services, specifications or product descriptions at any time without notice.

Explanation of Symbols



Experimental Procedures (The protocols are scalable and can be optimized)

Steps		Procedure Details
1	 **Pre-washing magnetic nanobeads**	1. Resuspend *AccuNanoBead*™ Streptavidin Magnetic NanoBeads by gently vortexing. 2. Transfer 200 µl (2 mg) of magnetic nanobeads to a 1.5 ml tube and place the 1.5 ml tube on a Neodymium (Nd) magnet for 1 min. 3. Remove the supernatant. 4. Equilibrate by adding 1 ml of washing buffer to the bead slurry and mix briefly. (Nucleic acids: B&W buffer, Antibodies/Proteins: PBS (pH 7.4)) 5. Place the tube on the Nd magnet for 1 min and remove the supernatant. 6. Repeat step 4 and 5 once more.
2	**Binding**	
	 **Nucleic acids**	1. Resuspend washed *AccuNanoBead*™ Streptavidin Magnetic NanoBeads in B&W buffer 500µl. 2. Load up biotinylated nucleic acids (in Distilled water) onto the tube. 3. Add to distilled water up to final volume 1ml 4. Incubate for 15 min at room temperature with gently rotation. * **Note:** Make sure that the magnetic nanobeads are evenly resuspended. This is important for an efficient purification.
	 **Antiboies/Proteins**	1. Incubate the washed *AccuNanoBead*™ Streptavidin Magnetic NanoBeads and biotinylated antibodies/proteins in PBS (pH 7.4) for 30 min at room temperature with gently rotation. * Biotinylated antibodies/proteins in PBS volume range: 500~1000 µl * **Note:** Make sure that the magnetic nanobeads are evenly resuspended. This is important for an efficient purification.
3	 **Washing**	1. Remove a supernatant using Nd for 1min 2. Wash the coated *AccuNanoBead*™ Streptavidin Magnetic NanoBeads 3~5 times in washing buffer 1ml. (Nucleic acids: B&W buffer, Antibodies/Proteins: PBS (pH 7.4)) 3. Resuspend to the desired concentration in a suitable buffer for you application * **Note:** After the final wash, the remaining washing buffer should be removed completely.
4	**Elution**	
	 **Nucleic acids**	1a. **For Biotinylated Nucleic acids:** Add appropriate amounts of Nucleic acid elution buffer and incubate at 65°C for 2 min. 1b. **For Non-biotinylated Nucleic acids:** Add appropriate amounts of double distilled water and heat for 5 min. * **Note:** Short fragment's heating condition is at 65-70°C and that of large fragment is at 95°C. 2. Place the tube on the Nd magnet for 1 min and transfer the elution fraction to a new tube.
	 **Protein/Antibody**	1a. **For Denaturing elution:** Add appropriate amounts of Protein/Antibody elution buffer and incubate at 70°C for 5 min. 1b. **For Non-denaturing elution**: Add appropriate amounts of Protein/Antibody elution buffer and incubate for a few minutes at room temperature. Then add a Neutralization buffer (10% of eluate) to the elution fraction. * **Note:** Protein elution buffer and Neutralization buffer should be mixed at a ratio of 9:1. 2. Place the tube on the Nd magnet for 1 min and transfer the elution fraction to a new tube.