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## B E A D S ● A B O V E T H E R E S T™

### Description

BioMag Streptavidin is a nuclease-free suspension of BioMag particles approximately 1.5µm in size, which are covalently coated with streptavidin. The suspension is supplied in a phosphate buffered saline (pH 7.4) containing 0.1% BSA. Sodium azide has been added as an anti-microbial. Shake vigorously or vortex before use. Magnetically separate the BioMag particles, aspirate the supernatant and resuspend in an appropriate buffer.

### Characteristics

Mean Diameter:	~1.5µm
Particle Concentration:	1mg/mL
Binding Capacity:	1mg of BioMag Streptavidin will bind: <ul style="list-style-type: none"><li>&gt;1500 pmoles of free biotin</li><li>&gt;1000 pmoles of a 20-mer biotinylated oligonucleotide</li><li>&gt;200 pmoles of a 100-mer biotinylated oligonucleotide</li><li>&gt;70 pmoles of a 300 bp 5 biotinylated double stranded DNA</li><li>&gt;25 pmoles of a 1Kbp 5 biotinylated double stranded DNA</li></ul>

### Material

#### Material Supplied

- BioMag Streptavidin: 10mL or 25mL

#### Material Required

- Binding Buffer: 20mM Tris, 0.5M NaCl at pH 8.0
- Wash Buffer: 7mM Tris and 0.17 NaCl at pH 8.0
- DEPC-treated water
- Nuclease-free microcentrifuge tubes
- Magnetic separator

### Procedure

Researchers are advised to optimize the use of BioMag in any application as procedures designed by other manufacturers may not be ideal.

The following procedure is for the isolation of 1-2µg of mRNA from approximately 75-100µg of total RNA. The total isolation time is less than 30 minutes.

1. Dispense 200µL of BioMag Streptavidin into a nuclease-free microcentrifuge tube. Using a magnetic separation unit, pull the magnetic particles to the side of the microcentrifuge tube for 30 seconds. Remove and discard the supernatant. Resuspend the BioMag Streptavidin in 100µL of Binding Buffer.
2. Incubate 2.5µL (2.5µg) of 5-Biotinylated Oligo (dT) (or an appropriate amount of biotinylated molecule) with the 100µL of BioMag Streptavidin from Step 1 for 15 minutes at room temperature.
3. Magnetically separate for 30 seconds and discard the supernatant. Wash the Oligo (dT) bound particles from Step 2 with 100µL of Binding Buffer 2 times, leaving the magnetic particles as a wet cake.

4. Bring up the total RNA sample in DEPC-treated water to a total volume of 90µL.
5. Incubate the RNA sample at 55°C for 5 minutes to disrupt secondary structures.
6. Add 10µL of 5M NaCl to achieve a final concentration of 0.5M NaCl.
7. Add the total RNA to the washed magnetic particles from Step 3. Mix gently and hybridize at room temperature for 3 minutes.
8. Magnetically separate and wash the particles with 100µL of Wash Buffer.
9. Elute the bound mRNA with 25-50µL of DEPC-treated water at 55°C for 2 minutes.
10. Magnetically separate and transfer the supernatant to a nuclease-free microcentrifuge tube.
11. Repeat elution of mRNA with 25-50µL of DEPC-treated water at 55°C for another 2 minutes in order to completely elute the bound mRNA from the particles. Magnetically separate and transfer the supernatant to the tube containing the first elution of mRNA from Step 10.

## References

1. **Hornes, E., K.S. Jakobsen, O.S. Gabrielsen, L.S. Korsnes, E.B. Jansen and M. Espelund.** 1991. Purification of mRNA and DNA binding proteins using magnetic beads. In: Kemshead, J.T., ed. *Magnetic separation techniques applied to cellular and molecular biology*. Somerset, Wordsmiths' conference publications. 197-205.
2. **Morrissey, D.V., M. Lombardo, J.K. Eldredge, K.R. Kearney, E.P. Goody and M.K. Collins.** 1989. Nucleic acid hybridization assays employing dA-tailed capture probes. *Anal Biochem*, 181: 345-359.

## Storage and Stability

Store at 2-8°C. Freezing, drying, or centrifuging BioMag may result in irreversible aggregation and loss of binding activity.

## Safety

This particle suspension contains sodium azide. Sodium azide may react with lead and copper plumbing to form explosive metal azides. Upon disposal of material, flush with a large volume of water to prevent azide accumulation. Please consult the Material Safety Data Sheet for more information.

**This product is for research use only and is not intended for use in humans or for *in vitro* diagnostic use.**

## Ordering Information

Catalog Code	Description	Sizes
BM568	BioMag® Streptavidin, Nuclease-free	10mL or 25mL

Order online anytime at [www.bangslabs.com](http://www.bangslabs.com).