

## New England Biolabs Product Specification

*Product Name:* Streptavidin  
*Catalog #:* N7021S  
*Concentration:* 1 mg/ml  
*Shelf Life:* 24 months  
*Storage Temp:* -20°C  
*Storage Conditions:* 140 mM NaCl, 8 mM Sodium Phosphate, 2 mM Potassium Phosphate, 10 mM KCl, (pH 7.4 @ 25°C)  
*Specification Version:* PS-N7021S v1.0  
*Effective Date:* 12 Feb 2018

### Assay Name/Specification (minimum release criteria)

**Endonuclease Activity (Nicking)** - A 50 µl reaction in NEBuffer 3 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 1 µg of Streptavidin incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.

**Exonuclease Activity (Radioactivity Release)** - A 50 µl reaction in NEBuffer 3 containing 1 µg of a mixture of single and double-stranded [<sup>3</sup>H] *E. coli* DNA and a minimum of 1 µg of Streptavidin incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.

**Functional Testing (Single Stranded DNA Binding - FAM Labeled Oligo)** - A 20 µl reaction in NEBuffer 3 containing 3 µM FAM and Biotin-labeled 50-mer and a maximum of 1 µg of Streptavidin incubated for 5 minutes at 25°C produces a mobility shift in >95% of the starting material as determined by TBE gel electrophoresis and UV imaging.

**Non-Specific DNase Activity (16 Hour)** - A 50 µl reaction in NEBuffer 3 containing 1 µg of Lambda DNA and a minimum of 1 µg of Streptavidin incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

**Protein Purity Assay (SDS-PAGE)** - Streptavidin is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.

**RNase Activity (Extended Digestion)** - A 10 µl reaction in NEBuffer 3 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 µg of Streptavidin is incubated at 37°C. After incubation for 2 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.



Date 12 Feb 2018

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Director of Quality Control

