BSA, Molecular Biology Grade

1-800-632-7799
info@neb.com
www.neb.com

B9000S 011161019101

B9000S

12 mg BSA, Molecular Biology Grade Exp: 10/19

20 mg/ml Lot: 0111610 Store at –20°C

Description: Bovine Serum Albumin (BSA) is supplied with some products to prevent adhesion of the enzyme to reaction tubes and pipette surfaces. BSA also stabilizes some proteins during incubation.

Supplied in: 20 mM Tris-HCl, 100 mM KCl, 0.1 mM EDTA and 50% glycerol (pH 8.0 @ 25°C).

Quality Controls Assays

Protein Concentration (A_{280}): The concentration of BSA is 20 mg/ml +/– 5% as determined by UV absorption at 280 nm. Protein concentration is determined by the Pace method using the extinction coefficient of 42,925 and molecular weight of 66,464 daltons for BSA (1).

Non-Specific DNase Activity (16 hour): A 50 µl reaction in NEBuffer 4 containing 1 µg of Lambda DNA (HindIII digest) and a minimum of 100 µg of BSA incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

RNase Activity (2 Hour Digestion): A 10 µl reaction in NEBuffer 4 containing 40 ng of flourescein labeled RNA transcript and a minimum of 20 µg of BSA incubated for 2 hours at 37°C results in no detectable degradation of the RNA as determined by gel electrophoresis using fluorescence detection.

RNase Activity (Extended Digestion): A 10 µl reaction in NEBuffer 4 containing 40 ng of flourescein labeled RNA transcript and a minimum of 20 µg of BSA is incubated at 37°C. After incubation for 16 hours, > 90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescence detection.

Exonuclease Activity (Radioactivity Release): A 50 µl reaction in NEBuffer 4 containing 1 µg of a mixture of single and double-stranded [^{3}H] *E. coli* DNA and a minimum of 100 µg of BSA incubated for 4 hours at 37°C releases < 0.1% of the total radioactivity.

Endonuclease Activity (Nicking): A 50 µl reaction in NEBuffer 4 containing 1 µg of supercoiled ϕX174 RF I DNA DNA and a minimum of 20 µg of BSA incubated for 4 hours at 37°C results in < 20% conversion to the nicked form as determined by agarose gel electrophoresis.

Single Stranded DNase Activity (FAM Labeled Oligo): A 50 µl reaction in NEBuffer 4 containing a 20 nM solution of a fluorescent internal labeled oligonucleotide and a minimum of 100 µg of BSA incubated for 16 hours at 37°C yields < 5% degradation as determined by capillary electrophoresis.

Phosphatase Activity (FAM Labeled Oligo): A 50 µl reaction in NEBuffer 4 containing a 20 nM solution of a fluorescent internal labeled oligonucleotide with a 5´ phosphate and a minimum of 100 µg of BSA incubated for 16 hours at 37°C yields < 5% degradation as determined by capillary electrophoresis.

qPCR DNA Contamination (*E. coli* Genomic): A minimum of 10 µg of BSA is screened for the presence of *E. coli* genomic DNA using SYBR Green qPCR with primers specific for the *E. coli* 16S rRNA locus. Results are quantified using a standard curve generated from purified *E. coli* genomic DNA. The measured level of *E. coli* genomic DNA contamination is less than 1 *E. coli* genome.

(see other side)

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Reference:

1. Pace, C.N. et al. (1995) *Protein Sci.*, 4, 2411–2423.

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