

## New England Biolabs Certificate of Analysis

**Product Name:** NEBuffer™ 3.1  
**Catalog #:** B7203S  
**Concentration:** 10X Concentrate  
**Lot #:** 0521801  
**Assay Date:** 01/2018  
**Expiration Date:** 01/2021  
**Storage Temp:** -20°C  
**Composition (1X):** 100 mM NaCl, 50 mM Tris-HCl, 10 mM MgCl<sub>2</sub>, 100 µg/ml BSA, (pH 7.9 @ 25°C)  
**Specification Version:** PS-B7203S v1.0  
**Effective Date:** 31 Jan 2018

| Assay Name/Specification (minimum release criteria)  | Lot #0521801 |
|--|--------------|
| <b>Conductivity (buffers/solutions)</b> - The conductivity of 10X NEBuffer 3.1 is between 84 and 101 mS at 25°C.   | <b>Pass</b>  |
| <b>Endonuclease Activity (Nicking, Buffer)</b> - A 50 µl reaction in 1X NEBuffer 3.1 containing 1 µg of supercoiled PhiX174 DNA incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.                      | <b>Pass</b>  |
| <b>Functional Testing (Restriction Digest, Buffer)</b> - A 50 µl reaction in 1X NEBuffer 3.1 containing 1 µg of pBC4 DNA and 1 unit of NotI incubated for 1 hour at 37°C results in complete digestion of the substrate DNA as determined by agarose gel electrophoresis.      | <b>Pass</b>  |
| <b>Functional Testing (Restriction Digest, Buffer)</b> - A 50 µl reaction in 1X NEBuffer 3.1 containing 1 µg of Lambda DNA and 1 unit of AseI incubated for 1 hour at 37°C results in complete digestion of the substrate DNA as determined by agarose gel electrophoresis.    | <b>Pass</b>  |
| <b>Non-Specific DNase Activity (16 hour, Buffer)</b> - A 50 µl reaction in 1X NEBuffer 3.1 containing 1 µg of PhiX174-HaeIII DNA incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. | <b>Pass</b>  |
| <b>pH (buffers/solutions)</b> - The pH of 10X NEBuffer 3.1 is between pH 7.8 and 8.0 at 25°C.  | <b>Pass</b>  |
| <b>RNase Activity (Buffer)</b> - A 10 µl reaction in 1X NEBuffer 3.1 containing 40 ng of a 300 base single-stranded RNA is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by fluorescent detection.                  | <b>Pass</b>  |



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\* The BSA in this product has been granted an EDQM "Certificate of Suitability" from the European Directorate for the Quality of Medicines (# R1-CEP-2003-204-Rev00) and has been granted a USDA Certificate for Export of Bovine Blood Plasma/Serum for Manufacture into Pharmaceutical Products.



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Authorized by  
Derek Robinson  
31 Jan 2018



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Inspected by  
Tony Spear-Alfonso  
12 Jan 2018

