

New England Biolabs Product Specification

Product Name: *M-MuLV Reverse Transcriptase Reaction Buffer*
Catalog #: B0253S
Concentration: 10X Concentrate
Shelf Life: 36 months
Storage Temp: -20°C
Composition (1X): 50 mM Tris-HCl, 75 mM KCl, 3 mM MgCl₂, 10 mM DTT, (pH 8.3 @ 25°C)
Specification Version: PS-B0253S v1.0
Effective Date: 04 Oct 2016

Assay Name/Specification (minimum release criteria)

Endonuclease Activity (Nicking, Buffer) - A 50 µl reaction in 2X M-MuLV Reverse Transcriptase Reaction Buffer 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.

Non-Specific DNase Activity (16 hour, Buffer) - A 50 µl reaction in 2X M-MuLV Reverse Transcriptase Reaction Buffer containing 1 µg of T3 DNA in addition to a reaction containing Lambda-HindIII DNA incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

pH (buffers/solutions) - The pH of 10X M-MuLV Reverse Transcriptase Reaction Buffer is between pH 8.2 and 8.4 at 25°C.

Phosphatase Activity (pNPP, Buffer) - A 200 µl reaction in 1M Diethanolamine @ pH 9.8 and 0.5 mM MgCl₂ containing 2.5 mM *p*-Nitrophenyl Phosphate (pNPP) and a minimum of 40 µl M-MuLV Reverse Transcriptase Reaction Buffer incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.

qPCR DNA Contamination (*E. coli* Genomic, Buffer) - A minimum of 1 µl of M-MuLV Reverse Transcriptase Reaction Buffer 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 ≤ 1 *E. coli* genome.

RNase Activity (Extended Digestion) - A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 µl of M-MuLV Reverse Transcriptase Reaction Buffer is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.



Date 04 Oct 2016

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Director of Quality Control

