NEW ENGLAND BioLabs® Inc.

240 County Road
Ipswich, MA 01938-2723

Tel 978-927-5054
Fax 978-921-1350

www.neb.com
info@neb.com

New England Biolabs
Product Specification

Product Name:	*Control LAMP Primer Mix (rActin)*
Catalog #:	*S0164S*
Concentration:	*10X Concentrate*
Shelf Life:	*24 months*
Storage Temp:	*-20°C*
Composition (1X):	*Proprietary*
Specification Version:	*PS-S0164S v1.0*
Effective Date:	*11 Feb 2022*

Assay Name/Specification (minimum release criteria)
Endonuclease Activity (Nicking) - A 50 µl reaction in NEBuffer 2 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 5 µl of Control LAMP Primer Mix (rActin) incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.
Functional Testing (LAMP primers) - A 25 µl reaction in 1X WarmStart® LAMP Master Mix with UDG in the presence of LAMP Fluorescent Dye and 1X Control LAMP Primer Mix (rActin) containing 10 ng human RNA results in a threshold time of ≤ 20 minutes as determined by fluorescent detection. Reactions that lack human RNA template remain negative over a 30 minute incubation at 65°C.
Non-Specific DNase Activity (16 Hour) - A 50 µl reaction in NEBuffer 2 containing 1 µg of T3 or T7 DNA in addition to a reaction containing Lambda-HindIII DNA and a minimum of 5 µl of Control LAMP Primer Mix (rActin) incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.
Phosphatase Activity (pNPP) - A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM $MgCl_2$ containing 2.5 mM *p*-Nitrophenyl Phosphate (pNPP) and a minimum of 20 µl of Control LAMP Primer Mix (rActin) incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.
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 Control LAMP Primer Mix (rActin) 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 11 Feb 2022

Derek Robinson
Director, Quality Control