NEW ENGLAND BioLabs® Inc.

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New England Biolabs
Certificate of Analysis

Product Name:	*ΦX174 RF II DNA*
Catalog #:	*N3022S/L*
Concentration:	*1,000 µg/ml*
Unit Definition:	*N/A*
Lot #:	*1241611*
Assay Date:	*11/2016*
Expiration Date:	*11/2018*
Storage Temp:	*-20°C*
Storage Conditions:	*10 mM Tris-HCl (pH 8.0), 1 mM EDTA*
Specification Version:	*PS-N3022S/L v1.0*
Effective Date:	*28 Apr 2015*

Assay Name/Specification (minimum release criteria)	**Lot #1241611**
A260/A280 Assay - The ratio of UV absorption of ΦX174 RF II DNA at 260 and 280 nm is between 1.8 and 2.0.	**Pass**
DNA Concentration (A260) - The concentration of ΦX174 RF II DNA is between 1000 and 1050 µg/ml as determined by UV absorption at 260 nm.	**Pass**
Electrophoretic Pattern (Plasmid) - The banding pattern of ΦX174 RF II DNA on a 1.2% agarose gel is evaluated against a control lot for sharpness and relative intensity as determined by gel electrophoresis using Ethidium Bromide.	**Pass**
Non-Specific DNase Activity (DNA, 16 hour) - A 50 µl reaction in 1X NEBuffer 2 containing 5 µg of ΦX174 RF II DNA incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	**Pass**
Restriction Digest (Linearization) - A 50 µl reaction in CutSmart™ Buffer containing 5 µg of ΦX174 RF II DNA DNA and 20 units of XhoI incubated for 1 hour at 37°C produces > 95% linearization resulting in a single band of approximately 5386 bp as determined by agarose gel electrophoresis.	**Pass**

Authorized by
Derek Robinson
28 Apr 2015

Inspected by
Vanessa Mathieu-Sheltry
16 Nov 2016

nqa ISO 9001 Registered Quality Management
nqa ISO 14001 Registered Environmental Management
nqa ISO 13485 Registered Medical Devices