NEW ENGLAND BioLabs® Inc.

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New England Biolabs
Certificate of Analysis

Product Name:	*TelN Resolvase*
Catalog #:	*M0651S*
Concentration:	*5,000 units/ml*
Unit Definition:	*One unit is defined as the amount of enzyme required to digest 0.5 µg of pMiniT-TelRL BsaI-linearized DNA in 30 minutes at 30°C in a total reaction volume of 50 µl.*
Lot #:	*0031707*
Assay Date:	*07/2017*
Expiration Date:	*07/2018*
Storage Temp:	*-20°C*
Storage Conditions:	*100 mM NaCl , 10 mM Tris-HCl , 1 mM DTT , 0.1 mM EDTA , 50 % Glycerol, (pH 7.4 @ 25°C)*
Specification Version:	*PS-M0651S v1.0*
Effective Date:	*15 Feb 2017*

Assay Name/Specification (minimum release criteria)	**Lot #0031707**
Endonuclease Activity (Circular Single Stranded DNA) - A 50 µl reaction in ThermoPol® Reaction Buffer containing 1 µg of M13mp18 Single-stranded DNA and a minimum of 25 units of TelN Resolvase incubated for 4 hours at 37°C results in <20% conversion to linear DNA as determined by agarose gel electrophoresis.	**Pass**
Endonuclease Activity (Nicking) - A 50 µl reaction in ThermoPol® Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 50 units of TelN Resolvase incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	**Pass**
Exonuclease Activity (Radioactivity Release) - A 50 µl reaction in ThermoPol® Reaction Buffer containing 1 µg of a mixture of single and double-stranded [^{3}H] *E. coli* DNA and a minimum of 25 units of TelN Resolvase incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	**Pass**
Functional Testing (Covalent End Integrity) - A 30 µl reaction in CutSmart® Buffer containing 0.5 µg of pMiniT-TelRL DNA and 5 units TelN Resolvase incubated for 30 minutes at 30°C followed by heat inactivation and the subsequent addition of 10 units of T5 exonuclease incubated for 1 hour at 37°C results in ≤ 10% loss of starting material as determined by agarose gel electrophoresis.	**Pass**
Non-Specific DNase Activity (16 Hour) - A 50 µl reaction in ThermoPol® Reaction Buffer containing 1 µg of HaeIII digested PhiX174 RF I DNA and a minimum of 50 units of TelN Resolvase incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	**Pass**

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

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Assay Name/Specification (minimum release criteria)	**Lot #0031707**
Protein Purity Assay (SDS-PAGE) - TelN Resolvase is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	**Pass**

Authorized by
Derek Robinson
15 Feb 2017

Inspected by
Cathy Shea
20 Jul 2017