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New England Biolabs
Product Specification

Product Name:	*NEBNext® FFPE DNA Repair Mix*
Catalog #:	*M6630S/L*
Shelf Life:	*12 months*
Storage Temp:	*-20°C*
Specification Version:	*PS-M6630S/L v2.0*
Effective Date:	*09 Jul 2019*

Assay Name/Specification (minimum release criteria)

Functional Testing (FFPE Repair Mix) - Pretreatment with NEBNext® FFPE DNA Repair Mix improves the quality of base calling, especially C & G for FFPE DNA, when compared to an untreated control as determined by sequencing on the Illumina® platform. NEBNext® FFPE DNA Repair Mix lowers the C:T (same as G:A) mutation for FFPE DNA, which is due to cytosine deamination to U, when compared to an untreated control as determined by sequencing on the IIllumina® platform.

Functional Testing (Oligonucleotide Cleavage - 8-oxo-guanine) - A 10 µl reaction in ThermoPol® Reaction Buffer containing 2.5 pmol of annealed oligo containing 8-oxo-guanine as the non-standard base and 1 µl of the NEBNext® FFPE DNA Repair Mix incubated for 1 hour at 37°C resulted in >70% cleavage as determined by polyacrylamide gel electrophoresis.

Functional Testing (Oligonucleotide Cleavage - Thymine Glycol) - A 10 µl reaction in ThermoPol® Reaction Buffer containing 2.5 pmol of annealed oligo containing thymine glycol as the non-standard base and 1 µl of the NEBNext® FFPE DNA Repair Mix incubated for 20 minutes at 37°C resulted in >70% cleavage as determined by polyacrylamide gel electrophoresis.

Functional Testing (Oligonucleotide Cleavage - Uracil) - A 10 µl reaction in ThermoPol® Reaction Buffer containing 2.5 pmol of annealed oligo containing uracil as the non-standard base and 1 µl of the NEBNext® FFPE DNA Repair Mix incubated for 10 minutes at 37°C resulted in >70% cleavage as determined by polyacrylamide gel electrophoresis.

PCR Amplification (1 kb) - A 48 µl reaction in ThermoPol® Reaction Buffer containing 1.5 ng of UV damaged Lambda DNA, 100 µM dNTPs, 500 µM NAD+ and 1 µl of the NEBNext® FFPE DNA Repair Mix was incubated for 15 minutes at 37°C. Addition of 100 µM dNTPs, 0.4 µM L1 primer mix and 2.5 units of *Taq* DNA Polymerase followed by 25 cycles of PCR resulted in the expected 1 kb specific product.

Date 09 Jul 2019

Derek Robinson
Director of Quality Control

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