

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:	Thermostable Endonuclease Q
Catalog #:	M0701S
Concentration:	1,000 units/ml
Unit Definition:	One unit is defined as the amount of enzyme required to cleave 1 pmol of a 60-mer single-stranded oligonucleotide containing a single deoxyxanthosine site* in a total reaction volume of 20 μ l in 1 hour at 65°C. (* A dX site is synthetically prepared at the 24th position of a 60 mer oligonucleotide.)
Shelf Life:	24 months
Storage Temp:	-20°C
Storage Conditions:	10 mM Tris-HCl, 500mM NaCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol (pH 7.4 @ 25°C)
Specification Version:	PS-M0701S v1.0
Effective Date:	10 Oct 2024

Assay Name/Specification (minimum release criteria)

DNase Activity (Labeled Oligo, 3' extension) - A 50 µl reaction in CutSmart® Buffer containing a 20 nM solution of a fluorescent labeled double-stranded oligonucleotide containing a 3' extension and a minimum of 5 units of Thermostable Endonuclease Q incubated for 16 hours at 37°C yields <5% degradation as determined by capillary electrophoresis.

DNase Activity (Labeled Oligo, 5' extension) - A 50 µl reaction in CutSmart® Buffer containing a 20 nM solution of a fluorescent labeled double-stranded oligonucleotide containing a 5' extension and a minimum of 5 units of Thermostable Endonuclease Q incubated for 16 hours at 37°C yields <5% degradation as determined by capillary electrophoresis.

Double Stranded DNase Activity (Labeled Oligo) - A 50 μ l reaction in CutSmart® Buffer containing a 20 nM solution of a fluorescent labeled double-stranded oligonucleotide containing a blunt end and a minimum of 5 units of Thermostable Endonuclease Q incubated for 16 hours at 37°C yields <5% degradation as determined by capillary electrophoresis.

Non-Specific DNase Activity (16 Hour) - A 50 μ l reaction in rCutSmartTM Buffer containing 1 μ g of Lambda-HindIII DNA and a minimum of 10 units of Thermostable Endonuclease Q incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

Protein Purity (Microfluidic Electrophoresis) - Thermostable Endonuclease Q is ≥95% pure as determined by microfluidic electrophoresis.



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qPCR DNA Contamination (*E. coli* Genomic) - A minimum of 1 unit of Thermostable Endonuclease Q 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.

Single Stranded DNase Activity (FAM-Labeled Oligo) - A 50 µl reaction in CutSmart® Buffer containing a 20 nM solution of a fluorescent internal labeled oligonucleotide and a minimum of 5 units of Thermostable Endonuclease Q incubated for 16 hours at 37°C yields <5% degradation as determined by capillary electrophoresis.

One or more products referenced in this document may be covered by a 3rd-party trademark. Please visit <u>www.neb.com/trademarks</u> for additional information.

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Lauren Brown Quality Approver



Date 10 Oct 2024

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