240 County Road Ipswich, MA 01938-2723 Tel 978-927-5054 Fax 978-921-1350

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New England Biolabs Certificate of Analysis

Product Name: EcoO109I Catalog #: R0503S/L Concentration: 20,000 units/ml

Unit Definition: One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA (Hind III digest) in 1 hour at 37°C in a

total reaction volume of 50 µl.

Lot #: 0121804 04/2018 Assay Date: Expiration Date: 4/2020 *-20°C* Storage Temp:

Storage Conditions: 10 mM Tris-HCl, 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 200 µg/ml BSA, 50 % Glycerol, (pH 7.4 @ 25°C)

PS-R0503S/L v2.0 Specification Version: Effective Date: 14 Jul 2017

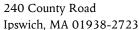
Assay Name/Specification (minimum release criteria)	Lot #0121804
Blue-White Screening (Terminal Integrity) - A sample of pUC19 vector linearized with a 10-fold excess of EcoO109I, religated and transformed into an <i>E. coli</i> strain expressing the LacZ beta fragment gene results in <1% white colonies.	Pass
Endonuclease Activity (Nicking) - A 50 μl reaction in CutSmart™ Buffer containing 1 μg of supercoiled PhiX174 DNA and a minimum of 60 Units of EcoO109I 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 CutSmart™ Buffer containing 1 μg of a mixture of single and double-stranded [³ H] <i>E. coli</i> DNA and a minimum of 100 units of EcoO109I incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
Ligation and Recutting (Terminal Integrity) - After a 20-fold over-digestion of pBR322 DNA with EcoO109I, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, >95% can be recut with EcoO109I.	Pass
Non-Specific DNase Activity (16 Hour) - A 50 μl reaction in CutSmart TM Buffer containing 1 μg of Lambda-HindIII DNA and a minimum of 100 Units of EcoO109I incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass

^{*} The BSA in this product has been granted an EDQM "Certificate of Suitability" from the European Directorate for the Quality of Medicines (#R1-CEP-2003-204-Rev00) and has been granted a USDA Certificate for Export of Bovine Blood Plasma/Serum for Manufacture into Pharmaceutical Products.





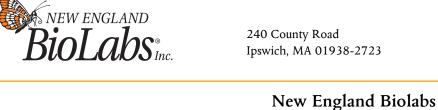




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Authorized by Derek Robinson 14 Jul 2017

nqa ISO 9001 Registered





Inspected by Jianying Luo 11 Apr 2018