NEW ENGLAND BioLabs Inc.
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Ipswich, MA 01938-2723
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New England Biolabs
Certificate of Analysis

Product Name:	*AvrII*
Catalog Number:	*R0174S*
Concentration:	*5,000 U/ml*
Unit Definition:	*One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA (HindIII digest) in 1 hour at 37°C in a total reaction volume of 50 µl.*
Packaging Lot Number:	*10076124*
Expiration Date:	*11/2021*
Storage Temperature:	*-20°C*
Storage Conditions:	*300 mM NaCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 500 µg/ml BSA*
Specification Version:	*PS-R0174S/L v1.0*

AvrII Component List

NEB Part Number	Component Description	Lot Number	Individual QC Result
R0174SVIAL	AvrII	10060593	**Pass**
B7204SVIAL	CutSmart® Buffer	10075569	**Pass**
B7024SVIAL	Gel Loading Dye, Purple (6X)	10074634	**Pass**

Assay Name/Specification	Lot # 10076124
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [^{3}H] E. coli DNA and a minimum of 50 units of AvrII incubated for 4 hours at 37ºC releases <0.1% of the total radioactivity.	**Pass**
Ligation and Recutting (Terminal Integrity) After a 50-fold over-digestion of Lambda HindIII DNA with AvrII, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16ºC. Of these ligated fragments, >95% can be recut with AvrII.	**Pass**
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda HindIII DNA and a minimum of 50 Units of AvrII incubated for 16 hours at 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	**Pass**
Protein Purity Assay (SDS-PAGE)	**Pass**

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Assay Name/Specification	Lot # 10076124
AvrII is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	
Blue-White Screening (Terminal Integrity) A sample of Litmus28i vector linearized with a 10-fold excess of AvrII, religated and transformed into an E. coli 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 50 Units of AvrII incubated for 4 hours at 37ºC results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	**Pass**

This product has been tested and shown to be in compliance with all specifications.

Penghua Zhang
Production Scientist
01 Jul 2020

Michael Tonello
Packaging Quality Control Inspector
01 Jul 2020

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