NEW ENGLAND BioLabs Inc.
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240 County Road
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:	*10067209*
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	10068804	**Pass**
B7024SVIAL	Gel Loading Dye, Purple (6X)	10065745	**Pass**

Assay Name/Specification	Lot # 10067209
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**
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	**Pass**

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Assay Name/Specification	Lot # 10067209
fragments can be ligated with T4 DNA ligase in 16 hours at 16ºC. Of these ligated fragments, >95% can be recut with AvrII.	
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) AvrII is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	**Pass**

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

Anthony Francis
Production Scientist
22 Nov 2019

Jay Minichiello
Packaging Quality Control Inspector
20 Mar 2020