XmnI

5′...G A A N N ▼ N N T T C...3′
3′...C T T N N ▲ N N A A G...5′

Isoschizomers | Single Letter Code

Catalog #	Size	Concentration	Price	Qty
R0194S	1,000 units	20,000 units/ml	**$60.00**	1
R0194L	5,000 units	20,000 units/ml	**$241.00**	1

Categories: Restriction Endonucleases: T-Z, Time-Saver™ Qualified Restriction Enzymes

Applications: Restriction Enzyme Digestion

Product Information | FAQs & Tech Tips | Protocols & Manuals | Other Tools & Resources | Quality & Safety

Description

Product Source
An *E.coli* strain that carries the XmnI gene from *Xanthomonas manihotis* 7AS1 (ATCC 49764).

Reagents Supplied
The following reagents are supplied with this product:

	Store at (°C)	Concentration
CutSmart® Buffer	-20	10X

Properties and Usage

Unit Definition
One unit is defined as the amount of enzyme required to digest 1 µg of λ DNA in 1 hour at 37°C in a total reaction volume of 50 µl.

Reaction Conditions
1X CutSmart® Buffer
Incubate at 37°C

1X CutSmart® Buffer:
50 mM Potassium Acetate
20 mM Tris-acetate
10 mM Magnesium Acetate
100 µg/ml BSA
pH 7.9 @ 25°C

Activity in NEBuffers
NEBuffer 1.1: 50%
NEBuffer 2.1: 75%
NEBuffer 3.1: 10%
CutSmart® Buffer: 100%

Diluent Compatibility
- Diluent A

Storage Temperature
-20°C

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

Heat Inactivation
65°C for 20 min

Methylation Sensitivity
dam methylation: Not Sensitive
dcm methylation: Not Sensitive
CpG Methylation: Not Sensitive

Related Products

Materials Sold Separately
- CutSmart® Buffer

FAQs

FAQs

1. Do degenerate recognition sites need to be palindromic?
2. What is Star Activity and how can it be avoided?
3. What effect does BSA have on the performance of NEB's restriction enzymes when included in the new buffers?
4. Do I have to set-up digests with Time-Saver™ qualified enzymes for 5-15 minutes? Can I digest longer?
5. How can I access the old NEBuffer Activity Chart?
6. I tested your restriction enzyme on the substrate DNA recommended by NEB, and it appears to be active, however it does not digest my DNA. What could be the reason?
7. My restriction enzyme used to work well in the old NEBuffer but the new Performance chart indicates it has lower activity even though the only difference is the addition of BSA and removal of DTT to the new buffers. Why?

Protocols

Datacards

Protocols

1. Optimizing Restriction Endonuclease Reactions
2. Double Digest Protocol with Standard Restriction Enzymes
3. Time-Saver Protocol for Restriction Enzyme Digests

Datacards

The Product Summary Sheet, or Data Card, includes details for how to use the product, as well as details of its formulation and quality controls. The following file naming structure is used to name the majority of these document files: [Catalog Number]Datasheet-Lot[Lot Number]. For those product lots not listed below, please contact NEB at info@neb.com or fill out the Technical Support Form for appropriate document.
R0194Datasheet-Lot0681211

- Selection Tools
- Troubleshooting Guides
- Usage Guidelines & Tips
- Interactive Tools

Selection Tools

- Alphabetized List of Recognition Specificities
- Compatible Cohesive Ends and Generation of New Restriction Sites
- Cross Index of Recognition Sequences
- Dam-Dcm and CpG Methylation
- Enzymes with Multiple Recognition Sequences
- Frequencies of Restriction Sites
- Interrupted Palindromes
- Isoschizomers
- Time-Saver™ Qualified Enzymes
- Why Choose Recombinant Enzymes?

Usage Guidelines & Tips

- Activity at 37°C for Restriction Enzymes with Alternate Incubation Temperatures
- Activity of Restriction Enzymes in a Q5®, *Taq* or Phusion PCR Mix
- Cleavage Close to the End of DNA Fragments
- Cleavage of Supercoiled DNA
- Digestion of Agarose-Embedded DNA: Info for Specific Enzymes
- Double Digests
- Effects of CpG Methylation on Restriction Enzyme Cleavage
- Heat Inactivation
- Megabase Mapping
- NEBuffer Activity/Performance Chart with Restriction Enzymes
- Optimizing Restriction Endonuclease Reactions
- Restriction Endonucleases - Survival in a Reaction
- Restriction Enzyme Diluent Buffer Compatibility
- Restriction Enzyme Tips
- Single Letter Codes
- Star Activity
- Traditional Cloning Quick Guide

Troubleshooting Guides

- Restriction Enzyme Troubleshooting Guide

Interactive Tools

- Competitor Cross-Reference Tool
- DNA Sequences and Maps Tool
- Double Digest Finder
- Enzyme Finder
- NEBcutter®
- NEBioCalculator
- REBASE®

- Quality Control
- Specifications
- Datacards
- Certificate of Analysis
- Safety Data Sheet

Quality Control

Quality Control Assays

The following Quality Control Tests are performed on each new lot and meet the specifications designated for the product. Individual lot data can be found on the Product Summary Sheet/Datacard or Manual which can be found in the Supporting Documents section of this page.

- **Blue-White Screening (Terminal Integrity):**
  A sample of DNA vector linearized with a 10-fold excess of a restriction endonuclease, religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in less than 1% white colonies.
- **Endonuclease Activity (Nicking):**
  The product is tested in a reaction containing a supercoiled DNA substrate. After incubation for 4 hours the percent converted to the nicked form is determined by agarose gel electrophoresis.
- **Exonuclease Activity (Radioactivity Release):**
  The product is tested in a reaction containing a radiolabeled mixture of single and double-stranded DNA. After incubation for 4 hours the exonuclease activity is determined by the % release of radioactive nucleotides.
- **Ligation and Recutting (Terminal Integrity):**
  After an over-digestion of DNA with a restriction endonuclease the percentage of the DNA fragments ligated with T4 DNA ligase and the percentage that can be recut are determined by agarose gel electrophoresis.
- **Non-Specific DNase Activity (16 hour):**
  The product is tested for non-specific nuclease degradation in a reaction containing a DNA substrate. After incubation for 16 hours there is no detectable degradation of the DNA substrate as determined by agarose gel electrophoresis.

Certificate of Analysis

The Certificate of Analysis (COA) is a signed document that includes the storage temperature, expiration date and quality control's for an individual lot. The following file naming structure is used to name these document files: [Product Number]_[Size]_[Version]_[Lot Number]

R0194S_L_v1_0681402
R0194S_L_v1_0681211
R0194S_L_v1_0681304
R0194S_L_v1_0681308
R0194S_L_v1_0681407
R0194S_L_v1_0691501
R0194S_L_v1_0691505
R0194S_L_v1_0691511

Specifications

The Specification sheet is a document that includes the storage temperature, shelf life and the specifications designated for the product. The following file naming structure is used to name these document files: [Product Number]_[Size]_[Version]

R0194S_L_v1

Safety Data Sheet

The following is a list of Safety Data Sheet (SDS) that apply to this product to help you use it safely.

XmnI

CutSmart® Buffer

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R0194Datasheet-Lot0681211