





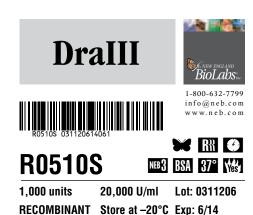
BioLabs.

1,000 units 20,000 U/ml Lot: 0311206 RECOMBINANT Store at -20°C Exp: 6/14

#### **Recognition Site:**

5<sup>′</sup>... C A C N N N G T G ... 3<sup>′</sup> 3<sup>′</sup>... G T G N N N C A C ... 5<sup>′</sup>

**Source:** An E. coli strain that carries the cloned Dralll gene from *Deinococcus radiophilus* (ATCC 27603)



#### **Recognition Site:**

5′... CACNNNGTG...3′ 3′... GTGNNNCAC...5′

**Source:** An E. coli strain that carries the cloned Dralll gene from *Deinococcus radiophilus* (ATCC 27603) Supplied in: 300 mM NaCl, 20 mM Tris-HCl (pH 7.4), 0.1 mM EDTA, 1 mM dithiothreitol, 200 µg/ml BSA and 50% glycerol.

**Reagents Supplied with Enzyme:** 10X NEBuffer 3, 100X BSA.

Reaction Conditions: 1X NEBuffer 3, supplemented with 100  $\mu$ g/ml BSA. Incubate at 37°C.

## 1X NEBuffer 3:

100 mM NaCl 50 mM Tris-HCl 10 mM MgCl<sub>2</sub> 1 mM dithiothreitol pH 7.9 @ 25°C

**Unit Definition:** One unit is defined as the amount of enzyme required to digest 1  $\mu$ g of  $\lambda$  DNA in 1 hour at 37°C in a total reaction volume of 50  $\mu$ l.

**Diluent Compatibility:** Diluent Buffer B 300 mM NaCl, 10 mM Tris-HCl, 0.1 mM EDTA, 1 mM DTT, 500 μg/ml BSA and 50% glycerol (pH 7.4 @ 25°C)

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### Quality Control Assays

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> 95% can be recut.

1 unit of enzyme.

released < 0.1% radioactivity.

**Ligation:** After 10-fold overdigestion with Dralll > 95% of the DNA fragments can be ligated with T4 DNA Ligase (at a 5' termini concentration of  $1-2 \ \mu$ M) at 16°C. Of these ligated fragments, > 95% can be recut.

**Exonuclease Activity:** Incubation of 100 units of enzyme with 1 µg sonicated <sup>3</sup>H DNA (10<sup>5</sup> cpm/µg) for 4 hours at 37°C in 50 µl reaction buffer released < 0.1% radioactivity.

**16-Hour Incubation:** A 50  $\mu$ I reaction containing 1  $\mu$ g of DNA and 100 units of enzyme incubated for 16 hours resulted in the same pattern of DNA bands as a reaction incubated for 1 hour with 1 unit of enzyme.

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## Enzyme Properties

Activity in NEBuffers: NEBuffer 1 100%

 NEBuffer 2
 75%

 NEBuffer 3
 100%

 NEBuffer 4
 25%

When using a buffer other than the optimal (supplied) NEBuffer, it may be necessary to add more enzyme to achieve complete digestion.

Survival in a Reaction: A minimum of 0.25 unit is required to digest 1  $\mu$ g of substrate DNA in 16 hours.

Heat Inactivation: 65°C or 20 minutes.

**Notes:** Cleavage of mammalian genomic DNA is impaired by overlapping CpG methylation.

Conditions of low ionic strength, high enzyme concentration, glycerol concentration > 5% or pH > 8.0 may result in star activity.

= Time-Saver<sup>™</sup> Qualified (See www.neb.com for details).

U.S. Patent No. 6,048,719

CERTIFICATE OF ANALYSIS

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NEBuffer 1	100%
NEBuffer 2	75%
NEBuffer 3	100%

NEBuffer 4 25%

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