

# CviKI-1



1-800-632-7799  
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R0710S 001120814081



## R0710S

250 units 5,000 U/ml Lot: 0011208

RECOMBINANT Store at -20°C Exp: 8/14

### Recognition Site:

5'... R G<sup>▼</sup> C Y ... 3'  
3'... Y C<sup>▲</sup> G R ... 5'

**Single Letter Code:** R = A or G, Y = C or T

**Description:** CviKI-1 is a restriction endonuclease with 4 expected recognition sites as well as up to eleven relaxed non-cognate sites (star sites).

**Source:** An *E. coli* strain carrying the cloned and modified CviKI-1 restriction gene derived from CA-1A, a *Chlorella* virus.

Supplied in: 50 mM NaCl, 10 mM Tris-HCl (pH 7.5), 0.1 mM EDTA, 1 mM DTT, 200 µg/ml BSA and 50% glycerol.

**Reagents Supplied with Enzyme:**  
10X NEBuffer 4.

**Reaction Conditions:** 1X NEBuffer 4.  
Incubate at 37°C.

**1X NEBuffer 4:**  
50 mM potassium acetate  
20 mM Tris-acetate  
10 mM magnesium acetate  
1 mM DTT  
pH 7.9 @ 25°C

**Unit Definition:** One unit is defined as the amount of enzyme required to digest 1 µg of pBR322 DNA in 1 hour at 37°C in a total reaction volume of 50 µl.

**Diluent Compatibility:** Diluent Buffer A  
50 mM KCl, 10 mM Tris-HCl, 0.1 mM EDTA, 1 mM DTT, 200 µg/ml BSA and 50% glycerol  
(pH 7.4 @ 25°C)

### Quality Control Assays

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

**16-Hour Incubation:** A 50 µl reaction containing 1 µg of DNA and 10 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.

### Enzyme Properties

#### Activity in NEBuffers

NEBuffer 1	10%
NEBuffer 2	50%
NEBuffer 3	25%
NEBuffer 4	100%

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 1 unit is required to digest 1 µg of substrate DNA in 16 hours.

**Heat Inactivation:** 80°C for 20 minutes.

**Notes:** CviKI-1 overnight digestion or addition of 20% DMSO greatly enhances the star activity. DNA can be digested to small oligos under "star" conditions.

= Time-Saver™ Qualified (See www.neb.com for details).

CERTIFICATE OF ANALYSIS

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