EURx® MOLECULAR BIOLOGY PRODUCTS

AcvI

5'-C A C G T G-3'
3'-G T G C A C-5'

Cat. No.	size
E2005-01	1500 units
E2005-02	7500 units

Reaction Temperature: 37°C

Inactivation Temperature (20 min): 80°C

Prototype: PmaCI

Source: *Aeromonas caviae*

Package Contents:

- **AcvI**
- **10 x ONE Buffer**
- **BSA [100x]**
  Added as separate component to prevent reaction buffer precipitation.
- **Dilution Buffer # 1**
  Added for enzymes exceeding 10 U/µl in concentration. High protein concentration warrants optimal stability during prolonged storage. Use dilution buffer to prepare short term working stocks (5-10 U/µl, non-freezing at -20°C).

Storage Conditions: Store at -20°C.

Double Digestion – Buffer Compatibility:

ONE Buffer is compatible with most EURx restriction enzymes.

Restriction Enzyme Buffer Compatibility:

Both, enzyme and buffers are fully compatible to restrictases and buffer systems from other manufacturers and can be used along in double digestions. To obtain best results, consult the corresponding manuals of all involved products.

DNA Methylation:

No Inhibition: dam, dcm

Potential Inhibition: EcoKI

Inhibition (Blocked): CpG

Standard Reaction Protocol (for 50 µl volume):

Mix the following reaction components:

1-2 µg pure DNA or 10 µl PCR product (=~0.1-2 µg DNA)

5 µl 10 x ONE Buffer

0.5 µl BSA [100x]

1-2 U AcvI (use 1 U per µg DNA, < 10% React. Volume!)

Tips: Add enzyme as last component. Mix components well before adding enzyme. After enzyme addition, mix gently by pipetting. Do not vortex.

add sterile H_2O to 50 µl final volume

Incubate for 1 h at 37°C

To obtain complete digestion of high molecular weight DNA, (e.g. plant genomic DNA), add excess amounts of enzyme and prolong the incubation time.

Stop reaction by alternatively

(a) Addition of 2.1 µl EDTA pH 8.0 [0.5 M], final 20 mM *or*

(b) Heat Inactivation

20 min at 80°C *or*

(c) Spin Column DNA Purification

(e.g. EURx PCR/DNA Clean-Up Kit, Cat.No. E3520) *or*

(d) Gel Electrophoresis and Single Band Excision

(e.g. EURx Agarose-Out DNA Kit, Cat.No. E3540) *or*

(e) Phenol-Chloroform Extraction or Ethanol Precipitation.

Non-optimal buffer conditions:

To compensate for the lack of enzyme activity, increase the amount of enzyme and/ or reaction time accordingly. The following values may serve as orientation:

1. *Enzyme amount*: Instead of 1 U enzyme, use ~4 U of enzyme in buffers providing 25% rel. activity, ~2 U in 50%, ~1.5 U in 75% or ~1 U in 100%, respectively.
2. *Reaction time*: Increase by ~1.3-fold (75% rel. activity), ~2-fold (50%) or ~4-fold (25%).

Notes:

It is **not recommended:**

- to perform digestion for over 4 hours;
- to use more than 10 units of enzyme per 1 µg of DNA.

These conditions may result in star activity.

Unit Definition:

One unit is the amount of enzyme required to completely digest 1 µg of Lambda DNA in 1 hr. Total reaction volume is 50 µl. Enzyme activity was determined in the recommended reaction buffer.

Reaction Buffer:

1 x ONE Buffer

To be supplemented with 100 µg/ml bovine serum albumin.

Storage Buffer:

10 mM Tris-HCl (pH 7.5 at 4°C), 1 mM dithiothreitol, 50 mM KCl, 10 mM $MgCl_2$, 0.1 mM EDTA, 200 µg/ml bovine serum albumin and 50% (v/v) glycerol.

Quality Control:

All preparations are assayed for contaminating endonuclease, 3'-exonuclease, as well as nonspecific single- and double-stranded DNase activities.

This product is developed, designed and sold exclusively for research purposes and in vitro use only.

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