Sma I

CCC^GGG

AccuCut™ *Restriction Endonuclease*

• **Cat. No.** **E-2051** **1000 Units**
E-2052 **5000 Units**

• **Lot No. : : 02C151491H8A3**

• **Supplied with Enzyme**

10X AccuCut™ Violet Buffer : 1 mL

330 mM	pH 7.9 Tris-acetate
100 mM	Mg-acetate
660mM	K-acetate
10 mM	DTT

1X Dilution Buffer : 1 mL

10 mM	pH 7.6 Tris-HCl
50 mM	KCl
0.1 mM	EDTA
1 mM	DTT
200 μ g/mL	Acetylated BSA
50%	Glycerol

• **Store at -20℃.**

• **Source** *: Serratia marcescens.*

• **Concentration : 10 Units/μL**

• **Reaction Condition**

- 10X AccuCut™ Violet Buffer
- **Incubate at 25℃.**

•**Storage Buffer**

20 mM	pH 7.5, Tris-HCl
50 mM	KCl
1 mM	EDTA
10 mM	2-mercaptoethanol
50%	Glycerol

• **Heat inactivation :** 65℃ for 20 minutes.

• **Unit definition** : One unit of restriction endonuclease activity is defined as the amount of enzyme required to completely digest 1μg of substrate DNA in a total reaction volume of 50 μL in one hour using the AccuCut™ buffer provided. Incubations are performed in 1.5 mL tubes at the appropriate incubation temperature as indicated in the Product Profile.

• **Isoschizomer** : *Cfr*J4 I,*Pae*B I, *Psp*AL I.

• **Neoschizomer** : Cfr9 I, Xma I (CCCGGG)

• **Reactivity on methylated substrate DNA:** Bolcked by ^{m4}CCCGGG, ^{m5}CCCGGG, C ^{m4}CCGGG, CC ^{m4}CGGG, CC ^{m5}CGGG. Not blocked by C ^{m5}CCGGG.

• **Ref**) *1.Butkus, V., Petrauskiene, L., Maneliene, Z., (1987) Nucleic Acids Res., vol. 15, pp. 7091-7102.*
2. Endow, S.A., (1977) J. Mol. Biol., vol. 112, pp. 521-529. 3.Greene, R., Mulder, C., (1990) Nucleic Acids Res., vol. 18, pp. 6607-6609.

Quality Control

• **Overdigestion Assay :**
No nonspecific activity was detected after incubation of 1 μg of λ DNA with 50 units of *Sma* I for 15 hours.
* Conditions of low ionic strength, high enzyme concentration, glycerol concentration >5%, or pH >8.0 may result in star activity.

• **Nuclease Contamination Assay :**
No altered pattern was detected after incubation of 1 μg of substrate DNA with *Sma* I in 50 μL reaction volume with the supplied AccuCut™ buffer overnight.

• **Ligation and Recutting Assay :**
This assay is used to test for exonuclease activity that would degrade the termini of restriction fragments, resulting in inhibition of ligation and of subsequent digestion of ligated fragments. After 40-fold overdigestion with *Sma* I, 95% of the DNA fragments can be ligated and recut with *Sma* I.