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ProductInformation

RESTRICTION ENDONUCELASE Hae II

Product No. **R 4257**

Store at 0 to –20 °C

Product Summary
Recognition Sequence: 5'PuGCGC/Py3'
Activity: 3,000 - 10,000 units/ml
Cutting: 100%
Ligation: >95%
Recutting: >95%
No degradation detected with >10 units for 16 hrs.
Fold over digestion: 160 (10 units x 16 hrs.)
Package Size: 50 units

Unit Definition
One unit is the enzyme activity that completely cleaves 1 µg λDNA in 1 hr. at 37 °C in a total volume of 25 µl of Buffer SA for restriction endonucleases. 1 µg pBR322 DNA is digested completely by 3.5 units of Hae II.

Specificity
Hae II recognizes the sequence PuGCGC/Py and generates fragments with 3'-cohesive ends.[1]

Comments
Digestion Buffer SA is supplied as a 10x concentrate.

Information is not available for heat inactivation of Hae II.

Hae II Storage and Dilution Buffer Composition
20 mM Tris-HCl
100 mM NaCl
0.1 mM EDTA
10 mM 2-mercaptoethanol
50% (v/v) glycerol
pH 7.5

1x Digestion Buffer SA (B 7531) Composition for Hae II: 100% Digestion at 37 °C.
33 mM Tris-acetate
66 mM Potassium acetate
10 mM Magnesium acetate
0.5 mM Dithiothreitol (DTT)
pH 7.9

Quality Control Testing
Absence of unspecific endonuclease activities:
1 µg λDNA is incubated for 16 hrs. in 50 µl buffer SA with excess of Hae II.

Ligation and Recutting Assay
Hae II fragments obtained by complete digestion of 1 µg λDNA are adjusted to pH 7.6 at 4 °C. The Hae II fragments are then ligated with 0.1 units T4-DNA ligase at pH 7.6 at 4 °C. A 10 µl reaction mixture, incubated for 16 hrs. at 4 °C, contained: 0.1 units T4-DNA ligase, 20 mM Tris-HCl, 10 mM $MgCl_2$, 10 mM dithioerythritol and 0.6 mM ATP.

The degree of ligation and subsequent recutting with Hae II to yield the typical pattern of λ x Hae II fragments is determined.

References
1. Roberts, R. J., et al., J. Mol. Biol., **91**, 121 (1975).

02/03