SANTA CRUZ BIOTECHNOLOGY, INC.

I-SceI (FL-86): sc-98269

BACKGROUND

Group I intron-encoded endonucleases, like I-SceI, represent a new class of double strand cutting endonucleases which generate double strand breaks in site-specific sequences. Despite its small size, I-SceI initiates intron homing by recognizing and specifically cleaving a large intronless DNA sequence. I-SceI binds to its substrate in monomeric form. The I-SceI restriction site is absent from most prokaryotic and eukaryotic genomes. The mitochondrial I-SceI has an 18-bp recognition sequence and, therefore, has a very low probability of cutting DNA, even within large genomes. Double-strand breaks can be initiated by the I-SceI endonuclease at a predetermined location in the genome and the breaks can be repaired with a donor molecule homologous regions flanking the breaks.

REFERENCES

1. Monteilhet, C., Perrin, A., Thierry, A., Colleaux, L., Dujon, B. 1990. Purification and characterization of the *in vitro* activity of I-Sce I, a novel and highly specific endonuclease encoded by a group I intron. Nucleic Acids Res. 18: 1407-1413.
2. Perrin, A., et al. 1993. Asymmetrical recognition and activity of the I-SceI endonuclease on its site and on intron-exon junctions. EMBO J. 12: 2939-2947.
3. Choulika, A., et al. 1995. Induction of homologous recombination in mammalian chromosomes by using the I-SceI system of *Saccharomyces cerevisiae*. Mol. Cell Biol. 15: 1968-1973.
4. Mahillon, J., Rode, C.K., Leonard, C., Bloch, C.A. 1997. New ultrarare restriction site-carrying transposons for bacterial genomics. Gene 187: 273-279.
5. Beylot, B., Spassky, A. 2001. Chemical probing shows that the intron-encoded endonuclease I-SceI distorts DNA through binding in monomeric form to its homing site. J. Biol. Chem. 276: 25243-25253.

SOURCE

I-SceI (FL-86) is a rabbit polyclonal antibody raised against amino acids 150-235 mapping at the C-terminus of I-SceI of *Saccharomyces cerevisiae* origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

I-SceI (FL-86) is recommended for detection of I-SceI of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

For research use only, not for use in diagnostic procedures.