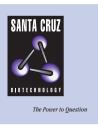
SANTA CRUZ BIOTECHNOLOGY, INC.

I-Scel (yK-20): sc-23527



BACKGROUND

Group I intron-encoded endonucleases, like I-Scel, represent a new class of double strand cutting endonucleases which generate double strand breaks in site-specific sequences. Despite its small size (26 kDa), I-Scel initiates intron homing by recognizing and specifically cleaving a large intronless DNA sequence. I-Scel binds to its substrate in monomeric form. The I-Scel restriction site is absent from most prokaryotic and eukaryotic genomes. The mitochondrial I-Scel 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-Scel endonuclease at a predetermined location in the genome and the breaks can be repaired with a donor molecule homologous regions flanking the breaks.

REFERENCES

- 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.
- Perrin, A., et al. 1993. Asymmetrical recognition and activity of the I-Scel endonuclease on its site and on intron-exon junctions. EMBO J. 12: 2939-2947.
- Choulika, A., et al. 1995. Induction of homologous recombination in mammalian chromosomes by using the I-Scel system of *Saccharomyces cerevisiae*. Mol. Cell Biol. 15: 1968-1973.
- Mahillon, J., Rode, C.K., Leonard, C., Bloch, C.A. 1997. New ultrarare restriction site-carrying transposons for bacterial genomics. Gene 187: 273-279.
- Beylot, B., Spassky, A. 2001. Chemical probing shows that the intronencoded endonuclease I-Scel distorts DNA through binding in monomeric form to its homing site. J. Biol. Chem. 276: 25243-25253.

SOURCE

I-Scel (yK-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of I-Scel of *Saccharomyces cerevisiae* origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-23527 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **D0 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-Scel (yK-20) is recommended for detection of I-Scel of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Molecular Weight of I-Scel: 26 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey antigoat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2033 and Western Blotting Luminol Reagent: sc-2048.

RESEARCH USE

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