



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

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 (26 kDa), 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

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- 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.
- 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.
- 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 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 (yK-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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.

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

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 (yK-20) is recommended for detection of I-SceI of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Molecular Weight of I-SceI: 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 anti-goat IgG-HRP: sc-2033 (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.

RESEARCH USE

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