SANTA CRUZ BIOTECHNOLOGY, INC.

Exo1 (yS-18): sc-23563

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The Power to Question

BACKGROUND

Comparative evaluation of the expression patterns of the human and mouse genes, combined with previous biochemical and yeast genetic studies, indicate that the Exo1 (Exonuclease I) proteins are important contributors to chromosome processing during mammalian DNA repair and recombination. In mice, the mExo1 gene maps to distal chromosome 1, consistent with the recent mapping of the orthologous human HEX1/ hEXO1 gene to chromosome 1q42-q43. mExo1 is expressed prominently in testis, an area of active homologous recombination, and spleen, a prominent lymphoid tissue. In both mammalian and yeast systems, Exo1 is a 5'-3' double stranded DNA exonuclease that has previously been implicated in DNA mismatch repair (MMR). The mismatch repair (MMR) system ensures genome integrity by removing mispaired and unpaired bases that originate during replication. In humans, Exo1 interacts with MSH2 and MLH1 and has been proposed to be a redundant Exonuclease in MMR. In both mammalian and yeast systems, Exo1 plays a structural role in MMR and stabilizes multiprotein complexes containing a number of MMR proteins.

REFERENCES

1. Lee, B.I., et al. 1999. Expression specificity of the mouse Exonuclease 1 (mExo1) gene. Nucleic Acids Res. 27: 4114-4120.
2. Kirkpatrick, D.T., et al. 2000. Decreased meiotic intergenic recombination and increased meiosis I nondisjunction in Exo1 mutants of *Saccharomyces cerevisiae*. Genetics 156: 1549-1557.
3. Tran, P.T., et al. 2001. Interactions of Exo1p with components of MutLα in *Saccharomyces cerevisiae*. Proc. Natl. Acad. Sci. U.S.A. 98: 9760-9765.
4. Mansour, A.A., et al. 2001. Control of GT repeat stability in *Schizosaccharomyces pombe* by mismatch repair factors. Genetics 158: 77-85.
5. Amin, N.S., et al. 2001. Exo1-Dependent mutator mutations: model system for studying functional interactions in mismatch repair. Mol. Cell. Biol. 21: 5142-5155.

SOURCE

Exo1 (yS-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Exo1 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-23563 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.

RESEARCH USE

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

APPLICATIONS

Exo1 (yS-18) is recommended for detection of Exo1 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Molecular Weight of Exo1: 92 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. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

PROTOCOLS

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