SANTA CRUZ BIOTECHNOLOGY, INC.

TREX-1 (S-18): sc-66294



BACKGROUND

TREX-1 (3' repair exonuclease 1), also known as trophoblast expressed 1, CRV, AGS1, AGS5, DRN3, HERNS or DNase III, is a member of the exonuclease superfamily and belongs to the TREX family. Members of the TREX family are involved in DNA metabolism and repair. TREX-1 is expressed in spleen, liver, thymus, colon, heart, brain and small intestine. It localizes to the nucleus and exists as a homodimer. TREX-1 is an exonuclease and its activity requires magnesium as a cofactor. TREX-1 has a preference for double stranded DNA and functions in the 3'-5' direction yielding nucleoside 5'-phosphates. TREX-1 also interacts with the SET complex (an endoplasmic reticulum (ER)-associated complex) and participates in granzyme A-mediated apoptosis. Mutations or defects in the gene encoding TREX-1 have been associated with a variety of diseases, including systemic lupus erythematosus, chilblain lupus (CHBL), Aicardi-Goutieres syndrome type 1 (AGS1) and type 5 (AGS5) and autosomal dominant retinal vasculopathy with cerebral leukodystrophy (CRV).

REFERENCES

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- 2. Crow, Y.J., et al. 2006. Mutations in the gene encoding the 3'-5' DNA exonuclease TREX-1 cause Aicardi-Goutieres syndrome at the AGS1 locus. Nat. Genet. 38: 917-920.
- 3. Chowdhury, D., et al. 2006. The exonuclease TREX-1 is in the SET complex and acts in concert with nm23-H1 to degrade DNA during granzyme Amediated cell death. Mol. Cell 23: 133-142.
- 4. Wang, J.Y., et al. 2006. Mismatch repair proteins as sensors of alkylation DNA damage. Cancer Cell 9: 417-418.
- 5. Namiki, Y., et al. 2006. ATRIP associates with replication protein A-coated ssDNA through multiple interactions. Proc. Natl. Acad. Sci. USA 103: 580-585.
- 6. Coscoy, L., et al. 2007. DNA mismanagement leads to immune system oversight. Cell 131: 836-838.
- 7. Yang, Y.G., et al. 2007. TREX-1 exonuclease degrades ssDNA to prevent chronic checkpoint activation and autoimmune disease. Cell 131: 873-886.
- 8. Lee-Kirsch, M.A., et al. 2007. Mutations in the gene encoding the 3'-5' DNA exonuclease TREX-1 are associated with systemic lupus erythematosus. Nat. Genet. 39: 1065-1067.
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CHROMOSOMAL LOCATION

Genetic locus: TREX1 (human) mapping to 3p21.31.

SOURCE

TREX-1 (S-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TREX-1 of human origin.

PRODUCT

Each vial contains 200 μ g lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-66294 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-66294 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TREX-1 (S-18) is recommended for detection of 3' repair exonuclease 1 of human 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).

TREX-1 (S-18) is also recommended for detection of three prime repair exonuclease 1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for TREX-1 siRNA (h): sc-63157, TREX-1 shRNA Plasmid (h): sc-63157-SH and TREX-1 shRNA (h) Lentiviral Particles: sc-63157-V.

TREX-1 (S-18) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of TREX-1: 33 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

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.

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.

MONOS Satisfation Guaranteed

Try TREX-1 (E-6): sc-271870, our highly recommended monoclonal aternative to TREX-1 (S-18).