

TREX-2 (C-12): sc-169679

BACKGROUND

Proper DNA and RNA metabolism requires nucleases which function in DNA replication, recombination and repair, as well as in RNA processing and degradation events. TREX-2 (three prime repair exonuclease 2) is a 279 amino acid protein that localizes to the nucleus and belongs to the TREX family of exonuclease proteins. Expressed in stomach, heart, breast, testis, prostate, colon and skeletal muscle, TREX-2 exists as a homodimer that functions as an exonuclease and is thought to play a role in DNA repair. Specifically, TREX-2 uses magnesium to catalyze the 3' to 5' exonucleolytic cleavage of 3' mismatched double stranded DNA, thereby yielding nucleoside 5' phosphates and eliminating mutant DNA. Multiple isoforms of TREX-2 exists due to alternative splicing events. Of transcriptional interest, the gene encoding human TREX-2 (Xq28) is either identical to or adjacent to that of UCHL5IP as most mRNAs encoding UCHL5IP also include the N-terminal part of TREX2.

REFERENCES

- Mazur, D.J. and Perrino, F.W. 1999. Identification and expression of the TREX1 and TREX2 cDNA sequences encoding mammalian 3'→5' exonucleases. *J. Biol. Chem.* 274: 19655-19660.
- Mazur, D.J. and Perrino, F.W. 2001. Structure and expression of the TREX1 and TREX2 3'→5' exonuclease genes. *J. Biol. Chem.* 276: 14718-14727.
- Shevelev, I.V. and Hübscher, U. 2002. The 3' 5' exonucleases. *Nat. Rev. Mol. Cell. Biol.* 3: 364-376.
- Shevelev, I.V., Ramadan, K. and Hübscher, U. 2002. The TREX2 3'→5' exonuclease physically interacts with DNA polymerase delta and increases its accuracy. *ScientificWorldJournal* 2: 275-281.
- Perrino, F.W., Krol, A., Harvey, S., Zheng, S.L., Horita, D.A., Hollis, T., Meyers, D.A., Isaacs, W.B. and Xu, J. 2004. Sequence variants in the 3'→5' deoxyribonuclease TREX2: identification in a genetic screen and effects on catalysis by the recombinant proteins. *Adv. Enzyme Regul.* 44: 37-49.
- Perrino, F.W., Harvey, S., McMillin, S. and Hollis, T. 2005. The human TREX2 3'→5'-exonuclease structure suggests a mechanism for efficient nonprocessive DNA catalysis. *J. Biol. Chem.* 280: 15212-15218.
- Chen, M.J., Ma, S.M., Dumitrache, L.C. and Hasty, P. 2007. Biochemical and cellular characteristics of the 3'→5' exonuclease TREX2. *Nucleic Acids Res.* 35: 2682-2694.
- Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 300370. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: TREX2 (human) mapping to Xq28; Trex2 (mouse) mapping to X A7.3.

SOURCE

TREX-2 (C-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TREX-2 of human 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-169679 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TREX-2 (C-12) is recommended for detection of TREX-2 of mouse, rat and human 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); non cross-reactive with TREX-1.

Suitable for use as control antibody for TREX-2 siRNA (h): sc-91164, TREX-2 siRNA (m): sc-154634, TREX-2 shRNA Plasmid (h): sc-91164-SH, TREX-2 shRNA Plasmid (m): sc-154634-SH, TREX-2 shRNA (h) Lentiviral Particles: sc-91164-V and TREX-2 shRNA (m) Lentiviral Particles: sc-154634-V.

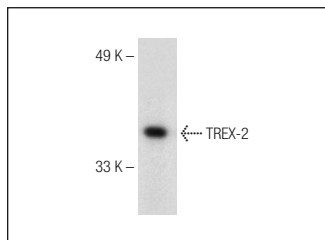
Molecular Weight of TREX-2: 25 kDa.

Positive Controls: CCRF-CEM nuclear extract: sc-2146.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



TREX-2 (C-12): sc-169679. Western blot analysis of TREX-2 expression in CCRF-CEM nuclear extract.

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.