SANTA CRUZ BIOTECHNOLOGY, INC.

PARN (N-12): sc-47618

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Exonucleolytic degradation of the poly(A) tail often initiates the first step in the decay of eukaryotic mRNAs. Poly(A)-specific ribonuclease (PARN), a highly poly(A)-specific 3'-exoribonuclease, efficiently degrades mRNA poly(A) tails. PARN, which also may be designated deadenylating nuclease, may also be involved in nonsense-mediated mRNA decay, a critical process of selective degradation of mRNAs that contain premature stop codons, and in the degradation of inherently unstable mRNAs that contain au-rich elements (AREs) in their 3' untranslated regions. PARN, which can form a homodimer, interacts with KHSRP and can be found in a mRNA decay complex with RENT1, RENT2 and RENT3B. It localizes mainly to the nucleus (may be detected in the nucleolus), but may also localize to the cytoplasm.

REFERENCES

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2. Martinez, J., Virtanen, A., Thuresson, A.C., Hellman, U., Astrom, J. and Ren, Y.G. 2000. A 54 kDa fragment of the PARN is an oligomeric, processive, and cap-interacting Poly(A)-specific 3' exonuclease. J. Biol. Chem. 275: 24222-24230.
3. Scherl, A., Coute, Y., Deon, C., Calle, A., Hochstrasser, D., Kindbeiter, K., Sanchez, J.C., Greco, A. and Diaz, J.J. 2002. Functional proteomic analysis of human nucleolus. Mol. Biol. Cell 13: 4100-4109.
4. Ren, Y.G., Kirsebom, L.A. and Virtanen, A. 2004. Coordination of divalent metal ions in the active site of PARN. J. Biol. Chem. 279: 48702-48706.
5. Seal, R., Temperley, R., Wilusz, J., Lightowlers, R.N. and Chrzanowska-Lightowlers, Z.M. 2005. Serum-deprivation stimulates cap-binding by PARN at the expense of eIF4E, consistent with the observed decrease in mRNA stability. Nucleic Acids Res. 33: 376-387.
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CHROMOSOMAL LOCATION

Genetic locus: PARN (human) mapping to 16p13.12; Parn (mouse) mapping to 16 A1.

SOURCE

PARN (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PARN of human origin.

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.

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-47618 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-47618 X, 200 µg/0.1 ml.

APPLICATIONS

PARN (N-12) is recommended for detection of PARN of mouse, rat and 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).

PARN (N-12) is also recommended for detection of PARN in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for PARN siRNA (h): sc-61297, PARN siRNA (m): sc-61298, PARN shRNA Plasmid (h): sc-61297-SH, PARN shRNA Plasmid (m): sc-61298-SH, PARN shRNA (h) Lentiviral Particles: sc-61297-V and PARN shRNA (m) Lentiviral Particles: sc-61298-V.

PARN (N-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of PARN: 74 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.