SANTA CRUZ BIOTECHNOLOGY, INC.

XRN2 (N-20): sc-50212

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Degradation of mRNA is a critical aspect of gene expression that occurs via the exoribonuclease. Exoribonuclease 2 (XRN2) is the human homolog of the *Saccharomyces cerevisiae* RAT1, which functions as a nuclear 5' to 3' exoribonuclease and is essential for mRNA turnover and cell viability. XRN2 also processes rRNAs and small nucleolar RNAs (snoRNAs) in the nucleus. XRN2 moves along with RNA polymerase II and gains access to the nascent RNA transcript after the endonucleolytic cleavage at the poly(A) site or at a second cotranscriptional cleavage site (CoTC). CoTC is an autocatalytic RNA structure that undergoes rapid self-cleavage and acts as a precursor to termination by presenting a free RNA 5' end to be recognized by XRN2. XRN2 then travels in a 5'-3' direction like a guided torpedo and facilitates the dissociation of the RNA polymerase elongation complex.

REFERENCES

1. Shobuike, T., Sugano, S., Yamashita, T. and Ikeda, H. 1995. Characterization of cDNA encoding mouse homolog of fission yeast dhp1+ gene: structural and functional conservation. Nucleic Acids Res. 23: 357-361.
2. Zhang, M., Yu, L., Xin, Y., Hu, P., Fu, Q., Yu, C. and Zhao, S. 1999. Cloning and mapping of the XRN2 gene to human chromosome 20p11.1-p11.2. Genomics 59: 252-254.
3. Kastenmayer, J.P. and Green, P.J. 2000. Novel features of the XRN-family in *Arabidopsis:* evidence that AtXRN4, one of several orthologs of nuclear XRN2p/Rat1p, functions in the cytoplasm. Proc. Nat. Acad. Sci. USA 97: 13985-13990.
4. Johnson, A.W. 2001. Rat1p nuclease. Meth. Enzymol. 342: 260-268.
5. Luo, W. and Bentley, D. 2004. A ribonucleolytic rat torpedoes RNA polymerase II. Cell 119: 911-914.
6. Tollervey, D. 2004. Molecular biology: termination by torpedo. Nature 432: 456-457.

CHROMOSOMAL LOCATION

Genetic locus: XRN2 (human) mapping to 20p11.23; Xrn2 (mouse) mapping to 2 G2.

SOURCE

XRN2 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of XRN2 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-50212 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.

APPLICATIONS

XRN2 (N-20) is recommended for detection of XRN2 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

XRN2 (N-20) is also recommended for detection of XRN2 in additional species, including canine, bovine, porcine and avian.

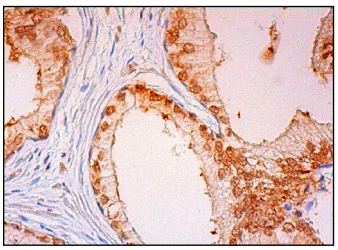
Suitable for use as control antibody for XRN2 siRNA (h): sc-61813, XRN2 siRNA (m): sc-61814, XRN2 shRNA Plasmid (h): sc-61813-SH, XRN2 shRNA Plasmid (m): sc-61814-SH, XRN2 shRNA (h) Lentiviral Particles: sc-61813-V and XRN2 shRNA (m) Lentiviral Particles: sc-61814-V.

Molecular Weight of XRN2: 117 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



XRN2 (N-20): sc-50212. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing nuclear staining of glandular cells.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **XRN2 (H-3): sc-365258**, our highly recommended monoclonal alternative to XRN2 (N-20).