SANTA CRUZ BIOTECHNOLOGY, INC.

Pan3 (D-19): sc-84548

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Pan3 (PAB-dependent poly(A)-specific ribonuclease subunit 3) is a 741 amino acid cytoplasmic protein belonging to the protein kinase superfamily. Containing a protein kinase domain, Pan3 is a component of the Pan nuclease complex and recruits polyadenylate-binding protein, which in turn stimulates Pan2 nuclease activity. It is suggested that Pan3 may have a functional role in cytoplasmic mRNA decay. Pan3 exists as three isoforms produced by alternative splicing and the gene encoding Pan3 is located on human chromosome 13. Chromosome 13 houses over 400 genes, such as BRCA2 and RB1, and comprises nearly 4% of the human genome. Trisomy 13, also known as Patau syndrome, is deadly and the few who survive past one year suffer from permanent neurologic defects, difficulty eating and vulnerability to serious respiratory infections.

REFERENCES

1. Brown, C.E., et al. 1996. Pan3 encodes a subunit of the Pab1p-dependent poly(A) nuclease in *Saccharomyces cerevisiae*. Mol. Cell. Biol. 16: 5744-5753.
2. Hammet, A., et al. 2002. Posttranscriptional regulation of the Rad5 DNA repair gene by the Dun1 kinase and the Pan2-Pan3 poly(A)-nuclease complex contributes to survival of replication blocks. J. Biol. Chem. 277: 22469-22474.
3. Uchida, N., et al. 2004. Identification of a human cytoplasmic poly(A) nuclease complex stimulated by poly(A)-binding protein. J. Biol. Chem. 279: 1383-1391.
4. Funakoshi, Y., et al. 2007. Mechanism of mRNA deadenylation: evidence for a molecular interplay between translation termination factor eRF3 and mRNA deadenylases. Genes Dev. 21: 3135-3148.
5. Siddiqui, N., et al. 2007. Poly(A) nuclease interacts with the C-terminal domain of polyadenylate-binding protein domain from poly(A)-binding protein. J. Biol. Chem. 282: 25067-25075.

CHROMOSOMAL LOCATION

Genetic locus: PAN3 (human) mapping to 13q12.2; Pan3 (mouse) mapping to 5 G3.

SOURCE

Pan3 (D-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of Pan3 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84548 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

Pan3 (D-19) is recommended for detection of Pan3 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 isoforms Pan3b, 2 and 3.

Pan3 (D-19) is also recommended for detection of Pan3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Pan3 siRNA (h): sc-76039, Pan3 siRNA (m): sc-152002, Pan3 shRNA Plasmid (h): sc-76039-SH, Pan3 shRNA Plasmid (m): sc-152002-SH, Pan3 shRNA (h) Lentiviral Particles: sc-76039-V and Pan3 shRNA (m) Lentiviral Particles: sc-152002-V.

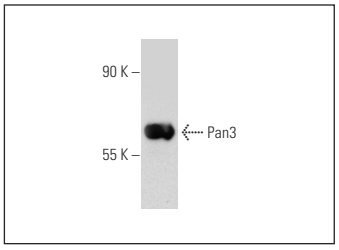
Molecular Weight of Pan3: 72 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, mouse thymus extract: sc-2406 or K-562 whole cell lysate: sc-2203.

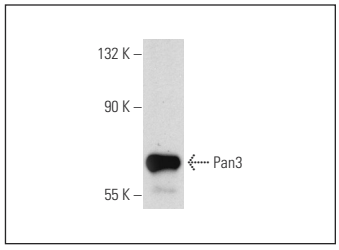
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Pan3 (D-19): sc-84548. Western blot analysis of Pan3 expression in NIH/3T3 whole cell lysate.



Pan3 (K-19): sc-84548. Western blot analysis of Pan3 expression in mouse thymus tissue extract.

RESEARCH USE

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