

Pan3 (A-9): sc-376434

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.

CHROMOSOMAL LOCATION

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

SOURCE

Pan3 (A-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 667-697 near the C-terminus of Pan3 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Pan3 (A-9) is available conjugated to agarose (sc-376434 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376434 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376434 PE), fluorescein (sc-376434 FITC), Alexa Fluor[®] 488 (sc-376434 AF488), Alexa Fluor[®] 546 (sc-376434 AF546), Alexa Fluor[®] 594 (sc-376434 AF594) or Alexa Fluor[®] 647 (sc-376434 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-376434 AF680) or Alexa Fluor[®] 790 (sc-376434 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376434 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

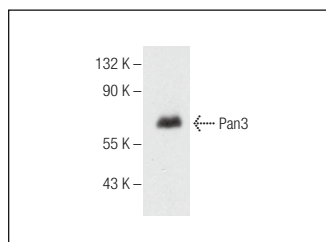
Pan3 (A-9) is recommended for detection of Pan3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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).

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.

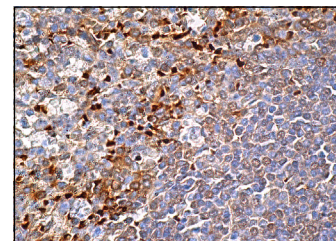
Molecular Weight of Pan3: 72 kDa.

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

DATA



Pan3 (A-9): sc-376434. Western blot analysis of Pan3 expression in K-562 whole cell lysate.



Pan3 (A-9): sc-376434. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of cells in red pulp.

SELECT PRODUCT CITATIONS

1. Bhowmick, R., et al. 2015. Rotavirus disrupts cytoplasmic P bodies during infection. *Virus Res.* 210: 344-354.
2. Mukhopadhyay, U., et al. 2019. Biphasic regulation of RNA interference during rotavirus infection by modulation of Argonaute2. *Cell. Microbiol.* 19: e13101.
3. Bao, C.H., et al. 2019. Effect of mild moxibustion on intestinal microbiota and NLRP6 inflammasome signaling in rats with post-inflammatory irritable bowel syndrome. *World J. Gastroenterol.* 25: 4696-4714.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.