

PFAAP5 (Y-20): sc-84574

BACKGROUND

PFAAP5 (phosphonoformate immuno-associated protein 5), also known as NEDD4-binding protein 2-like 2, is a 583 amino acid nuclear protein that potentially is involved in transcriptional regulation. PFAAP5 is phosphorylated on Ser 199 in response to DNA damage, probably by ATM or ATR. Primarily expressed in bone marrow, PFAAP5 is dramatically down-regulated after exposure to arsenic compounds, an event which precedes neutropenia. PFAAP5 interacts with both Gfi-1 and Neutrophil Elastase, two proteins that are implicated in neutropenia disorders. Defects in the gene encoding Neutrophil Elastase, ELA2, are the cause of cyclic haematopoiesis, which, with decreased numbers of circulating neutrophils, leads to an increased risk for opportunistic infection. Gfi-1 is a transcriptional repressor that targets the ELA2 gene among others. With PFAAP5 expression, Neutrophil Elastase can potentiate repression of Gfi-1 target genes, leading to the transcription of ELA2 and subsequent neutrophil differentiation. There are two isoforms of PFAAP5 that are produced as a result of alternative splicing events.

REFERENCES

1. Couch, F.J., et al. 1996. Generation of an integrated transcription map of the BRCA2 region on chromosome 13q12-q13. *Genomics* 36: 86-99.
2. Grimes, H.L., et al. 1996. The Gfi-1 proto-oncoprotein represses Bax expression and inhibits T cell death. *Proc. Natl. Acad. Sci. USA* 93: 14569-14573.
3. Doan, L.L., et al. 2004. Targeted transcriptional repression of Gfi-1 by GF11 and GF11B in lymphoid cells. *Nucleic Acids Res.* 32: 2508-2519.
4. Argos, M., et al. 2006. Gene expression profiles in peripheral lymphocytes by arsenic exposure and skin lesion status in a Bangladeshi population. *Cancer Epidemiol. Biomarkers Prev.* 15: 1367-1375.
5. Matsuoka, S., et al. 2007. ATM and ATR substrate analysis reveals extensive protein networks responsive to DNA damage. *Science* 316: 1160-1166.
6. Zeidler, C., et al. 2009. Clinical implications of ELA2-, HAX-1-, and G-CSF-receptor (CSF3R) mutations in severe congenital neutropenia. *Br. J. Haematol.* 144: 459-467.

CHROMOSOMAL LOCATION

Genetic locus: N4BP2L2 (human) mapping to 13q13.1; N4bp2l2 (mouse) mapping to 5 G3.

SOURCE

PFAAP5 (Y-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of PFAAP5 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-84574 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

PFAAP5 (Y-20) is recommended for detection of PFAAP5 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).

PFAAP5 (Y-20) is also recommended for detection of PFAAP5 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for PFAAP5 siRNA (h): sc-76110, PFAAP5 siRNA (m): sc-152178, PFAAP5 shRNA Plasmid (h): sc-76110-SH, PFAAP5 shRNA Plasmid (m): sc-152178-SH, PFAAP5 shRNA (h) Lentiviral Particles: sc-76110-V and PFAAP5 shRNA (m) Lentiviral Particles: sc-152178-V.

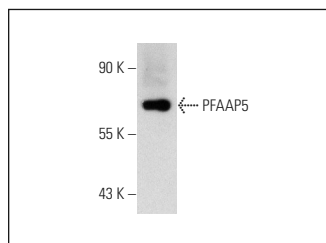
Molecular Weight of PFAAP5: 67 kDa.

Positive Controls: mouse lymph node extract: sc-364243 or HL-60 whole cell lysate: sc-2209.

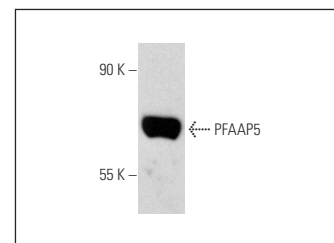
RECOMMENDED SECONDARY REAGENTS

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



PFAAP5 (Y-20): sc-84574. Western blot analysis of PFAAP5 expression in mouse lymph node tissue extract.



PFAAP5 (Y-20): sc-84574. Western blot analysis of PFAAP5 expression in HL-60 whole cell lysate.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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