SANTA CRUZ BIOTECHNOLOGY, INC.

PMFBP1 (Y-12): sc-136811

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The Power to Question

BACKGROUND

PMF-1 (polyamine-modulated factor 1) is a 205 amino acid protein involved in kinetochore formation. Localized to the nucleus, PMF-1 contains a coiled-coil domain which interacts with the leucine-zipper domain of Nrf2. This interaction regulates the transcription of SSAT, a regulatory enzyme for polyamine catabolism. PMF-1 is also a component of the MIS12 complex, which is required for kinetochore formation and chromosomal alignment and segregation. PMF-1 is expressed at highest levels in skeletal muscle and heart, with moderate expression in liver and kidney. PMFBP1 (polyamine-modulated factor 1-binding protein 1) is a 1,022 amino acid protein that binds PMF-1 and may be involved in general organization of the cytoskeleton. Due to evidence that PMFBP1 may play a role in sperm tail morphology, it may therefore affect fertility. There are three isoforms of PMFBP1 that are produced as a result of alternative splicing events.

REFERENCES

1. Haidl, G., et al. 1991. Poor development of outer dense fibers as a major cause of tail abnormalities in the spermatozoa of asthenoteratozoospermic men. Hum. Reprod. 6: 1431-1438.
2. Wang, Y., et al. 1999. Cloning and characterization of human polyamine-modulated factor-1, a transcriptional cofactor that regulates the transcription of the spermidine/spermine N_1-acetyltransferase gene. J. Biol. Chem. 274: 22095-22101.
3. Ohuchi, J., et al. 2001. Characterization of a novel gene, sperm-tail-associated protein (Stap), in mouse post-meiotic testicular germ cells. Mol. Reprod. Dev. 59: 350-358.
4. Wang, Y., et al. 2001. Characterization of the interaction between the transcription factors human polyamine modulated factor (PMF-1) and NF-E2-related factor 2 (Nrf-2) in the transcriptional regulation of the spermidine/spermine N_1-acetyltransferase (SSAT) gene. Biochem. J. 355: 45-49.
5. Wang, Y., et al. 2002. Polyamine-modulated factor 1 binds to the human homologue of the 7a subunit of the *Arabidopsis* COP9 signalosome: implications in gene expression. Biochem. J. 366: 79-86.

CHROMOSOMAL LOCATION

Genetic locus: PMFBP1 (human) mapping to 16q22.1; Pmfbp1 (mouse) mapping to 8 D3.

SOURCE

PMFBP1 (Y-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PMFBP1 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.

PROTOCOLS

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

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-136811 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PMFBP1 (Y-12) is recommended for detection of PMFBP1 isoforms 1-3 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).

Suitable for use as control antibody for PMFBP1 siRNA (h): sc-93383, PMFBP1 siRNA (m): sc-152345, PMFBP1 shRNA Plasmid (h): sc-93383-SH, PMFBP1 shRNA Plasmid (m): sc-152345-SH, PMFBP1 shRNA (h) Lentiviral Particles: sc-93383-V and PMFBP1 shRNA (m) Lentiviral Particles: sc-152345-V.

Molecular Weight of PMFBP1: 119 kDa.

Molecular Weight of PMFBP2: 117 kDa.

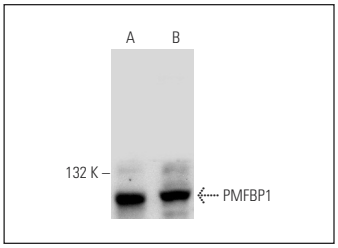
Molecular Weight of PMFBP3: 93 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or F9 cell lysate: sc-2245.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



PMFBP1 (Y-12): sc-136811. Western blot analysis of PMFBP1 expression in F9 (**A**) and K-562 (**B**) whole cell lysates.

RESEARCH USE

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