SANTA CRUZ BIOTECHNOLOGY, INC.

PBEF (1D3A12): sc-130058

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Pre-B cell-enhancing factor (PBEF), also designated nicotinamide phosphoribosyltransferase (Nampt) or visfatin, belongs to the NAPRTase family of proteins. PBEF may be involved in enhancing the effect of IL-7 and SCF on the formation of early B-lineage precursor colonies. It is involved in the catalysis of nicotinamide with 5-phosphoribosyl-1-pyrophosphate, yielding nicotinamide mono-nucleotide, which is important in NAD biosynthesis. This is a rate limiting step in the NAD biosynthesis pathway. Highly enriched in the visceral fat of both human and mice, PBEF expression levels in plasma increase during the development of obesity. PBEF is a cytoplasmic protein expressed primarily in bone marrow, muscle and liver tissue, but it can also be detected in placenta, lung, kidney and heart tissue.

REFERENCES

1. Samal, B., et al. 1994. Cloning and characterization of the cDNA encoding a novel human pre-B cell colony-enhancing factor. Mol. Cell. Biol. 14: 1431-1437.
2. Ognjanovic, S., et al. 2001. Genomic organization of the gene coding for human pre-B cell colony enhancing factor and expression in human fetal membranes. J. Mol. Endocrinol. 26: 107-117.
3. Martin, P.R., et al. 2001. Identification of a plasmid-encoded gene from *Haemophilus ducreyi* which confers NAD independence. J. Bacteriol. 183: 1168-1174.
4. Ognjanovic, S., et al. 2002. Pre-B cell colony-enhancing factor, a novel cytokine of human fetal membranes. Am. J. Obstet. Gynecol. 187: 1051-1058.
5. Jia, S.H., et al. 2004. Pre-B cell colony-enhancing factor inhibits neutrophil apoptosis in experimental inflammation and clinical sepsis. J. Clin. Invest. 113: 1318-1327.
6. Revollo, J.R., et al. 2004. The NAD biosynthesis pathway mediated by nicotinamide phosphoribosyltransferase regulates Sir2 activity in mammalian cells. J. Biol. Chem. 279: 50754-50763.
7. Ye, S.Q., et al. 2005. Pre-B cell-colony-enhancing factor is critically involved in Thrombin-induced lung endothelial cell barrier dysregulation. Microvasc. Res. 70: 142-151.

CHROMOSOMAL LOCATION

Genetic locus: NAMPT (human) mapping to 7q22.3.

SOURCE

PBEF (1D3A12) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 338-479 of PBEF of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

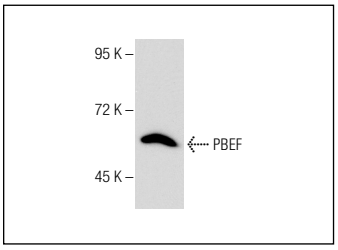
PBEF (1D3A12) is recommended for detection of Pre-B cell enhancing factor of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 PBEF siRNA (h): sc-45843, PBEF shRNA Plasmid (h): sc-45843-SH and PBEF shRNA (h) Lentiviral Particles: sc-45843-V.

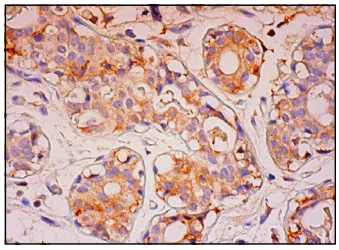
Molecular Weight of PBEF: 52 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209.

DATA



PBEF (1D3A12): sc-130058. Western blot analysis of expression in HL-60 whole cell lysate.



PBEF (1D3A12): sc-130058. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic and membrane staining of glandular cells and cytoplasmic staining of myoepithelial cells.

SELECT PRODUCT CITATIONS

1. Chang, X., et al. 2014. Adiponectin and visfatin may serve as diagnosis markers for metabolic syndrome in Uygur population. Int. J. Clin. Exp. Med. 7: 4322-4326.
2. Gehrke, I., et al. 2014. On-target effect of FK866, a nicotinamide phosphoribosyl transferase inhibitor, by apoptosis-mediated death in chronic lymphocytic leukemia cells. Clin. Cancer Res. 20: 4861-4872.
3. Zucal, C., et al. 2015. EIF2A-dependent translational arrest protects leukemia cells from the energetic stress induced by NAMPT inhibition. BMC Cancer 15: 855.
4. Mutz, C.N., et al. 2017. EWS-FLI1 confers exquisite sensitivity to NAMPT inhibition in Ewing sarcoma cells. Oncotarget 8: 24679-24693.
5. Thongon, N., et al. 2018. Cancer cell metabolic plasticity allows resistance to NAMPT inhibition but invariably induces dependence on LDHA. Cancer Metab. 6: 1.
6. Seidu, T., et al. 2021. DHT causes liver steatosis via transcriptional regulation of SCAP in normal weight female mice. J. Endocrinol. 250: 49-65.

RESEARCH USE

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