SANTA CRUZ BIOTECHNOLOGY, INC.

PBEF (E-10): sc-166866

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.

CHROMOSOMAL LOCATION

Genetic locus: NAMPT (human) mapping to 7q22.3; Nampt (mouse) mapping to 12 A3.

SOURCE

PBEF (E-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 420-450 near the C-terminus of PBEF of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-166866 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

PBEF (E-10) is recommended for detection of Pre-B cell enhancing factor 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PBEF (E-10) is also recommended for detection of Pre-B cell enhancing factor in additional species, including equine, canine and bovine.

Suitable for use as control antibody for PBEF siRNA (h): sc-45843, PBEF siRNA (m): sc-45844, PBEF shRNA Plasmid (h): sc-45843-SH, PBEF shRNA Plasmid (m): sc-45844-SH, PBEF shRNA (h) Lentiviral Particles: sc-45843-V and PBEF shRNA (m) Lentiviral Particles: sc-45844-V.

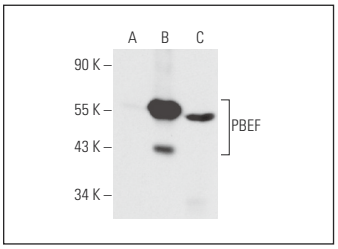
Molecular Weight of PBEF: 52 kDa.

Positive Controls: PBEF (m): 293T Lysate: sc-122402, HL-60 whole cell lysate: sc-2209 or LADMAC cell lysate: sc-364189.

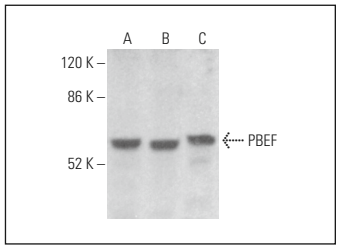
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PBEF (E-10): sc-166866. Western blot analysis of PBEF expression in non-transfected 293T: sc-117752 (**A**), mouse PBEF transfected 293T: sc-122402 (**B**) and HL-60 (**C**) whole cell lysates.



PBEF (E-10): sc-166866. Western blot analysis of PBEF expression in LADMAC (**A**), HEK293T (**B**) and HL-60 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Halperin, R.F., et al. 2012. GuiTope: an application for mapping random-sequence peptides to protein sequences. BMC Bioinformatics 13: 1.
2. Kim, J.S., et al. 2014. NAMPT regulates mitochondria biogenesis via NAD metabolism and calcium binding proteins during skeletal muscle contraction. J. Exerc. Nutrition Biochem. 18: 259-266.
3. Chen, Y., et al. 2017. Endogenous Nampt upregulation is associated with diabetic nephropathy inflammatory-fibrosis through the NFκB p65 and Sirt1 pathway; NMN alleviates diabetic nephropathy inflammatory-fibrosis by inhibiting endogenous Nampt. Exp. Ther. Med. 14: 4181-4193.
4. Wei, X., et al. 2020. NAD+/sirtuin metabolism is enhanced in response to cold-induced changes in lipid metabolism in mouse liver. FEBS Lett. 594: 1711-1725.
5. Jia, R., et al. 2022. NNMT is induced dynamically during beige adipogenesis in adipose tissues depot-specific manner. J. Physiol. Biochem. 78: 169-183.
6. Wei, X., et al. 2023. Both prolonged high-fat diet consumption and calorie restriction boost hepatic NAD+ metabolism in mice. J. Nutr. Biochem. 115: 109296.

RESEARCH USE

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