

## PBEF (F-5): sc-393443

### 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 mononucleotide, 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 mouse, 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

- 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.
- 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.
- Martin, P.R., et al. 2001. Identification of a plasmid-encoded gene from *Haemophilus ducreyi* which confers NAD independence. *J. Bacteriol.* 183: 1168-1174.
- 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.
- 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.
- 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.
- 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.
- Ye, S.Q., et al. 2005. Pre-B-cell colony-enhancing factor as a potential novel biomarker in acute lung injury. *Am. J. Respir. Crit. Care Med.* 171: 361-370.

### CHROMOSOMAL LOCATION

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

### SOURCE

PBEF (F-5) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of PBEF of human origin.

### RESEARCH USE

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

### PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

PBEF (F-5) is recommended for detection of PBEF 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).

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.

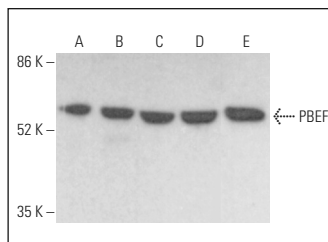
Molecular Weight of PBEF: 52 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, RAW 264.7 whole cell lysate: sc-2211 or Raji whole cell lysate: sc-364236.

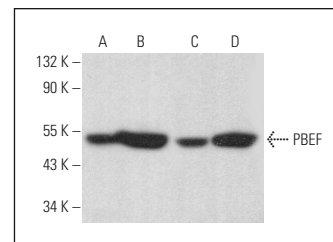
### RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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 (F-5): sc-393443. Western blot analysis of PBEF expression in Ramos (A), Jurkat (B), Hep G2 (C), RAW 264.7 (D) and HL-60 (E) whole cell lysates.



PBEF (F-5): sc-393443. Western blot analysis of PBEF expression in Ramos (A), Raji (B), WEHI-231 (C) and WR19L (D) whole cell lysates.

### 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](http://www.scbt.com) for detailed protocols and support products.