SANTA CRUZ BIOTECHNOLOGY, INC.

PBEF (E-3): sc-393444

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.

CHROMOSOMAL LOCATION

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

SOURCE

PBEF (E-3) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of PBEF of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PBEF (E-3) is available conjugated to agarose (sc-393444 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393444 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393444 PE), fluorescein (sc-393444 FITC), Alexa Fluor® 488 (sc-393444 AF488), Alexa Fluor® 546 (sc-393444 AF546), Alexa Fluor® 594 (sc-393444 AF594) or Alexa Fluor® 647 (sc-393444 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393444 AF680) or Alexa Fluor® 790 (sc-393444 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PBEF (E-3) 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: Raji whole cell lysate: sc-364236, WEHI-231 whole cell lysate: sc-2213 or WR19L cell lysate: sc-3805.

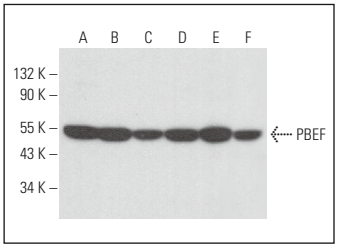
RESEARCH USE

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

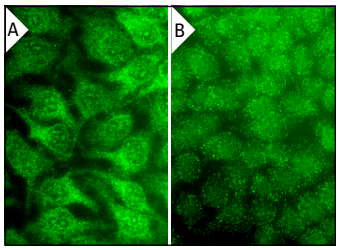
STORAGE

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

DATA



PBEF (E-3): sc-393444. Western blot analysis of PBEF expression in HL-60 (**A**), Raji (**B**), c4 (**C**), WEHI-231 (**D**), WR19L (**E**) and L6 (**F**) whole cell lysates.



PBEF (E-3): sc-393444. Immunofluorescence staining of methanol-fixed HeLa cells showing granular nuclear and cytoplasmic localization (**A**,**B**).

SELECT PRODUCT CITATIONS

1. Lee, J.H., et al. 2020. Isocitrate dehydrogenase 2 protects mice from high-fat diet-induced metabolic stress by limiting oxidative damage to the mitochondria from brown adipose tissue. Exp. Mol. Med. 52: 238-252.
2. Bianchi, A., et al. 2021. Moderate exercise inhibits age-related inflammation, liver steatosis, senescence, and tumorigenesis. J. Immunol. 206: 904-916.
3. Kim, J.S., et al. 2022. Colon-targeted eNAMPT-specific peptide systems for treatment of DSS-induced acute and chronic colitis in mouse. Antioxidants 11: 2376.
4. Yang, L., et al. 2023. Nicotine rebalances NAD^+ homeostasis and improves aging-related symptoms in male mice by enhancing NAMPT activity. Nat. Commun. 14: 900.
5. Murata, H., et al. 2023. STAT1/3 signaling suppresses axon degeneration and neuronal cell death through regulation of NAD^+-biosynthetic and consuming enzymes. Cell. Signal. 108: 110717.
6. Coulter, A.A., et al. 2023. Naringenin and β-carotene convert human white adipocytes to a beige phenotype and elevate hormone- stimulated lipolysis. Front. Endocrinol. 14: 1148954.
7. Miura, M., et al. 2023. SIRT1 controls enteroendocrine progenitor cell proliferation in high-fat diet-fed mice. Cell. Mol. Gastroenterol. Hepatol. 16: 1040-1057.
8. Sim, N., et al. 2024. TWEAK/Fn14 signalling driven super-enhancer reprogramming promotes pro-metastatic metabolic rewiring in triple-negative breast cancer. Nat. Commun. 15: 5638.

PROTOCOLS

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

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA