SANTA CRUZ BIOTECHNOLOGY, INC.

E3BP (H-6): sc-377255

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The pyruvate dehydrogenase (PDH) complex is a nuclear-encoded mitochondrial matrix enzyme complex that functions as the primary link between glycolysis and the tricarboxylic acid (TCA) cycle by catalyzing the irreversible conversion of pyruvate into acetyl-CoA. E3BP (E3-binding protein), also known as PDHX (pyruvate dehydrogenase protein X component) and lipoyl-containing pyruvate dehydrogenase complex component X, is a 501 amino acid mitochondrial protein that is required for anchoring E3 to the E2 core of the PDH complex, an event that is essential for a functional PDH complex. Defects in the gene encoding E3BP result in pyruvate dehydrogenase E3-binding protein deficiency, which is similar to PDH deficiency and Leigh syndrome in clinical presentation. Symptoms of E3BP deficiency can include lactic acidosis, delayed development, seizures, diplegia, cerebellar ataxia, optic atrophy, facial dysmorphism and episodic weakness.

CHROMOSOMAL LOCATION

Genetic locus: PDHX (human) mapping to 11p13; Pdhx (mouse) mapping to 2 E2.

SOURCE

E3BP (H-6) is a mouse monoclonal antibody raised against amino acids 151-280 mapping within an internal region of E3BP 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.

E3BP (H-6) is available conjugated to agarose (sc-377255 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377255 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377255 PE), fluorescein (sc-377255 FITC), Alexa Fluor® 488 (sc-377255 AF488), Alexa Fluor® 546 (sc-377255 AF546), Alexa Fluor® 594 (sc-377255 AF594) or Alexa Fluor® 647 (sc-377255 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377255 AF680) or Alexa Fluor® 790 (sc-377255 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

E3BP (H-6) is recommended for detection of E3BP 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), 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 E3BP siRNA (h): sc-77212, E3BP siRNA (m): sc-77213, E3BP shRNA Plasmid (h): sc-77212-SH, E3BP shRNA Plasmid (m): sc-77213-SH, E3BP shRNA (h) Lentiviral Particles: sc-77212-V and E3BP shRNA (m) Lentiviral Particles: sc-77213-V.

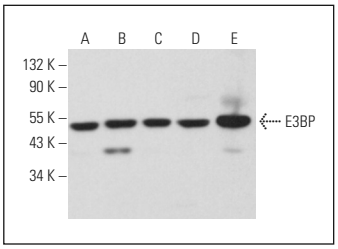
Molecular Weight of E3BP: 54 kDa.

Positive Controls: PC-3 cell lysate: sc-2220, SK-OV-3 whole cell lysate: sc-364229 or rat heart extract: sc-2393.

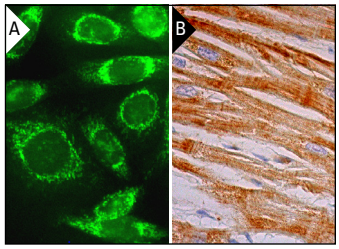
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



E3BP (H-6): sc-377255. Western blot analysis of E3BP expression in PC-3 (**A**), SK-OV-3 (**B**) and NCI-H1299 (**C**) whole cell lysates and mouse brain (**D**) and rat heart (**E**) tissue extracts.



E3BP (H-6): sc-377255. Immunofluorescence staining of formalin-fixed SW480 cells showing mitochondrial localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes (**B**).

SELECT PRODUCT CITATIONS

1. Huang, X., et al. 2019. The HGF-MET axis coordinates liver cancer metabolism and autophagy for chemotherapeutic resistance. Autophagy 15: 1258-1279.
2. Rickman, M., et al. 2023. Disturbed flow increases endothelial inflammation and permeability via a Frizzled-4-β-catenin-dependent pathway. J. Cell Sci. E-published.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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