SANTA CRUZ BIOTECHNOLOGY, INC.

p22HBP (E-3): sc-398750

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

p22HBP, also known as HEBP1 (heme binding protein 1), HBP or HEBP, is a 189 amino acid intracellular tetrapyrrole-binding protein that assists in prevention of cellular toxicity by removing free porphyrinogens from the cell. Existing as a monomer, p22HBP localizes to cytoplasm and contains a 21 amino acid chemoattractant within its N-terminus that functions as a natural ligand for FPR3. p22HBP is a member of the HEBP family and binds N-methylprotoporphyrin and metalloporphyrins with similar affinity to porphyrinogens. The gene encoding p22HBP maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and trisomy 12p, which causes facial developmental defects and seizure disorders.

REFERENCES

1. Zylka, M.J. and Reppert, S.M. 1999. Discovery of a putative heme-binding protein family (SOUL/HBP) by two-tissue suppression subtractive hybridization and database searches. Brain Res. Mol. Brain Res. 74: 175-181.
2. Jacob Blackmon, B., et al. 2002. Characterization of a human and mouse tetrapyrrole-binding protein. Arch. Biochem. Biophys. 407: 196-201.
3. Dias, J.S., et al. 2005. ^{1}H, ^{15}N and ^{13}C resonance assignments of the heme-binding protein murine p22HBP. J. Biomol. NMR 32: 338.
4. Migeotte, I., et al. 2005. Identification and characterization of an endogenous chemotactic ligand specific for FPRL2. J. Exp. Med. 201: 83-93.
5. Dias, J.S., et al. 2006. The first structure from the SOUL/HBP family of heme-binding proteins, murine p22HBP. J. Biol. Chem. 281: 31553-31561.
6. Gell, D.A., et al. 2006. A novel haem-binding interface in the 22 kDa haem-binding protein p22HBP. J. Mol. Biol. 362: 287-297.

CHROMOSOMAL LOCATION

Genetic locus: HEBP1 (human) mapping to 12p13.1.

SOURCE

p22HBP (E-3) is a mouse monoclonal antibody raised against amino acids 26-138 mapping within an internal region of p22HBP of human origin.

PRODUCT

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

p22HBP (E-3) is available conjugated to agarose (sc-398750 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398750 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398750 PE), fluorescein (sc-398750 FITC), Alexa Fluor® 488 (sc-398750 AF488), Alexa Fluor® 546 (sc-398750 AF546), Alexa Fluor® 594 (sc-398750 AF594) or Alexa Fluor® 647 (sc-398750 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398750 AF680) or Alexa Fluor® 790 (sc-398750 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

p22HBP (E-3) is recommended for detection of p22HBP of 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 p22HBP siRNA (h): sc-62739, p22HBP shRNA Plasmid (h): sc-62739-SH and p22HBP shRNA (h) Lentiviral Particles: sc-62739-V.

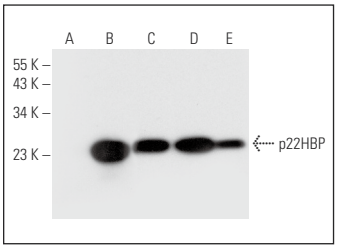
Molecular Weight of p22HBP: 22 kDa.

Positive Controls: p22HBP (h3): 293T Lysate: sc-111835, HeLa whole cell lysate: sc-2200 or A549 cell lysate: sc-2413.

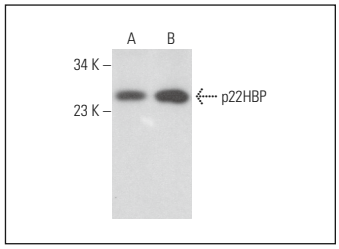
RECOMMENDED SUPPORT REAGENTS

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



p22HBP (E-3): sc-398750. Western blot analysis of p22HBP expression in non-transfected 293T: sc-117752 (**A**), human p22HBP transfected 293T: sc-111835 (**B**), HeLa (**C**), Y79 (**D**) and A549 (**E**) whole cell lysates.



p22HBP (E-3): sc-398750. Western blot analysis of p22HBP expression in HeLa (**A**), A549 (**B**) and MCF7 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ock, J., et al. 2023. Heme-binding protein 1 delivered via pericyte-derived extracellular vesicles improves neurovascular regeneration in a mouse model of cavernous nerve injury. Int. J. Biol. Sci. 19: 2663-2677.

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.