

HBP1 (A-5): sc-376831

BACKGROUND

The HMG-box protein-1 (HBP1) is a member of the HMG family of transcription factors, which are characterized by the presence of a conserved protein motif, the high mobility group (HMG) 1 box, that mediates DNA binding. HBP-1 binds to the tumor suppressor proteins Rb and p130 and initiates cell cycle arrest. Terminal cell differentiation requires this initial cell cycle arrest followed by the coordinated expression of genes defined as tissue-specific markers. Along with initiating the commitment to cell differentiation, the continued activity of HBP1 abrogates the expression of tissue-specific genes by associating with the MyoD proteins. In muscle cell differentiation, the MyoD family of transcription factors, which include Myf5, MyoD and myogenin, induce the expression of these cell-type specific proteins and contribute to the development of cell phenotypes. The progression of terminal differentiation is, therefore, dependent on both a decrease in HBP1 activity and the corresponding activation of MyoD-induced gene transcription.

CHROMOSOMAL LOCATION

Genetic locus: HBP1 (human) mapping to 7q22.3.

SOURCE

HBP1 (A-5) is a mouse monoclonal antibody raised against amino acids 1-300 of HBP1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-376831 X, 200 µg/0.1 ml.

STORAGE

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

APPLICATIONS

HBP1 (A-5) is recommended for detection of HBP1 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 HBP1 siRNA (h): sc-35532, HBP1 shRNA Plasmid (h): sc-35532-SH and HBP1 shRNA (h) Lentiviral Particles: sc-35532-V.

HBP1 (A-5) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of HBP1: 58 kDa.

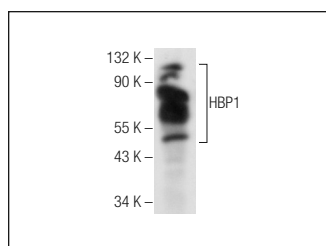
Molecular Weight (observed) of HBP1: 83 kDa.

Positive Controls: Y79 nuclear extract: sc-2126, Y79 cell lysate: sc-2240 or HeLa whole cell lysate: sc-2200.

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



HBP1 (A-5): sc-376831. Western blot analysis of HBP1 expression in Y79 nuclear extract.

SELECT PRODUCT CITATIONS

- Coomans de Brachène, A., et al. 2014. The expression of the tumour suppressor HBP1 is down-regulated by growth factors via the PI3K/PKB/FOXO pathway. *Biochem. J.* 460: 25-34.
- Bollaert, E., et al. 2018. HBP1 phosphorylation by Akt regulates its transcriptional activity and glioblastoma cell proliferation. *Cell. Signal.* 44: 158-170.
- Lampert, F., et al. 2018. The multi-subunit GID/CTLH E3 ubiquitin ligase promotes cell proliferation and targets the transcription factor HBP1 for degradation. *Elife* 7: e35528.
- Claeys, S., et al. 2019. ALK positively regulates MYCN activity through repression of HBP1 expression. *Oncogene* 38: 2690-2705.
- Mohamed, W.I., et al. 2021. The human GID complex engages two independent modules for substrate recruitment. *EMBO Rep.* 22: e52981.

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.