SANTA CRUZ BIOTECHNOLOGY, INC.

HEB (A-9): sc-515484

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Differentiation of myogenic cells is regulated by multiple positively and negatively acting factors. One well characterized family of helix-loop-helix (HLH) proteins known to play an important role in the regulation of muscle cell development includes Myo D, myogenin, Myf-5 and Myf-6 (also designated MRF-4 or herculin). Myo D transcription factors form heterodimers with products of a more widely expressed family of bHLH genes, the E family, which consists of at least three distinct genes: E2A, IF2 and HEB. Myo D-E heterodimers bind avidly to consensus (CANNTG) E box target sites that are functionally important elements in the upstream regulatory sequences of many muscle-specific terminal differentiation genes. Both homo- and heterooligomers of these proteins are able to distinguish very closely related E box proteins and are believed to play important roles in lineage specific gene expression.

REFERENCES

1. Wright, W.E., et al. 1989. Myogenin, a factor regulating myogenesis, has a domain homologous to Myo D. Cell 56: 607-617.
2. Braun, T., et al. 1989. A novel human muscle factor related to but distinct from Myo D1 induces myogenic conversion in 10T1/2 fibroblasts. EMBO J. 8: 701-709.
3. Rhodes, S.J., et al. 1989. Identification of MRF4: a new member of the muscle regulatory factor gene family. Genes Dev. 3: 2050-2061.
4. Murre, C., et al. 1989. Interactions between heterologous helix-loop-helix proteins generate complexes that bind specifically to a common DNA sequence. Cell 58: 537-544.
5. Miner, J.H., et al. 1990. Herculin, a fourth member of the Myo D family of myogenic regulatory genes. Proc. Natl. Acad. Sci. USA 87: 1089-1093.
6. Anthony-Cahill, S.J., et al. 1992. Molecular characterization of helix-loop-helix peptides. Science 255: 979-983.
7. Hu, J., et al. 1992. HEB, a helix-loop-helix protein related to E2A and ITF2 that can modulate the DNA-binding ability of myogenic regulatory factors. Mol. Cell. Biol. 12: 1031-1042.

CHROMOSOMAL LOCATION

Genetic locus: TCF12 (human) mapping to 15q21.3; Tcf12 (mouse) mapping to 9 D.

SOURCE

HEB (A-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 69-89 near the N-terminus of HEB 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.

Blocking peptide available for competition studies, sc-515484 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

HEB (A-9) is recommended for detection of HEB 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 HEB siRNA (h): sc-35552, HEB siRNA (m): sc-35553, HEB shRNA Plasmid (h): sc-35552-SH, HEB shRNA Plasmid (m): sc-35553-SH, HEB shRNA (h) Lentiviral Particles: sc-35552-V and HEB shRNA (m) Lentiviral Particles: sc-35553-V.

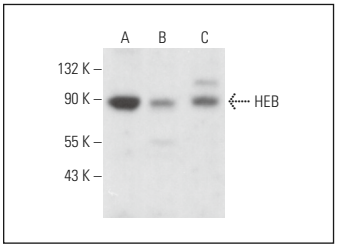
Molecular Weight of HEB: 85 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, C6 whole cell lysate: sc-364373 or SW480 cell lysate: sc-2219.

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



HEB (A-9): sc-515484. Western blot analysis of HEB expression in Jurkat nuclear extract (**A**) and SW480 (**B**) and C6 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Jacqueroud, L., et al. 2016. The heterodimeric TWIST1-E12 complex drives the oncogenic potential of TWIST1 in human mammary epithelial cells. Neoplasia 18: 317-327.

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.