SANTA CRUZ BIOTECHNOLOGY, INC.

HEB (H-130): sc-22826

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 hetero-oligomers 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. 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.
3. 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.
4. Rhodes, S.J. and Konieczny, S.F. 1989. Identification of MRF4: a new member of the muscle regulatory factor gene family. Genes Dev. 3: 2050-2061.
5. Miner, J.H. and Wold, B. 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.
8. Aronheim, A., et al. 1993. Cell-specific expression of helix-loop-helix transcription factors encoded by the E2A gene. Nucleic Acids Res. 21: 1601-1606.

CHROMOSOMAL LOCATION

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

SOURCE

HEB (H-130) is a rabbit polyclonal antibody raised against amino acids 31-160 of HEB of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG 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-22826 X, 200 µg/0.1 ml.

APPLICATIONS

HEB (H-130) is recommended for detection of HEB of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

HEB (H-130) is also recommended for detection of HEB in additional species, including equine, canine, bovine and porcine.

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.

HEB (H-130) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of HEB: 85 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat nuclear extract: sc-2132 or SJRH30 cell lysate: sc-2287.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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