

HEB (A-20): sc-357

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.

CHROMOSOMAL LOCATION

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

SOURCE

HEB (A-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within the C-terminus of HEB of human origin.

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-357 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-357 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HEB (A-20) 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 (A-20) is also recommended for detection of HEB in additional species, including equine, canine, bovine, porcine and avian.

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 (A-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

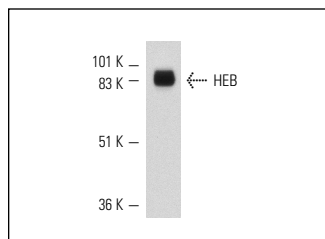
Molecular Weight of HEB: 85 kDa.

Positive Controls: SW480 cell lysate: sc-2219, Jurkat nuclear extract: sc-2132 or SJRH30 cell lysate: sc-2287.

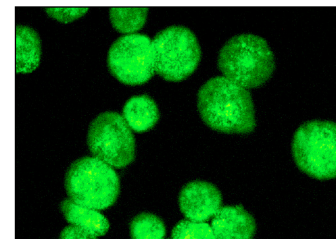
STORAGE

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

DATA



HEB (A-20): sc-357. Western blot analysis of HEB expression in Jurkat nuclear extract.



HEB (A-20): sc-357. Immunofluorescence staining of methanol-fixed Jurkat cells showing nuclear staining.

SELECT PRODUCT CITATIONS

- Zhuang, Y., et al. 1998. Functional replacement of the mouse E2A gene with a human HEB cDNA. *Mol. Cell. Biol.* 18: 3340-3349.
- Gardini, A., et al. 2008. AML1/ETO oncoprotein is directed to AML1 binding regions and co-localizes with AML1 and HEB on its targets. *PLoS Genet.* 4: e1000275.
- Davé, U.P., et al. 2009. Murine leukemias with retroviral insertions at Lmo2 are predictive of the leukemias induced in SCID-X1 patients following retroviral gene therapy. *PLoS Genet.* 5: e1000491.
- Xu, J., et al. 2009. Transcriptional competence and the active marking of tissue-specific enhancers by defined transcription factors in embryonic and induced pluripotent stem cells. *Genes Dev.* 23: 2824-2838.
- Ciarapica, R., et al. 2009. Targeting Id protein interactions by an engineered HLH domain induces human neuroblastoma cell differentiation. *Oncogene* 28: 1881-1891.
- Londhe, P., et al. 2011. Sequential association of myogenic regulatory factors and E proteins at muscle-specific genes. *Skelet. Muscle* 1: 14.
- Zhang, Y., et al. 2012. Binding of carbon nanotube to BMP receptor 2 enhances cell differentiation and inhibits apoptosis via regulating bHLH transcription factors. *Cell Death Dis.* 3: e308.

RESEARCH USE

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



Try **HEB (D-3): sc-28364** or **HEB (A-6): sc-365980**, our highly recommended monoclonal alternatives to HEB (A-20).