

E2A (m2): 293T Lysate: sc-119881

BACKGROUND

Transcription factor 3 (E47, E12, E2A immunoglobulin enhancer binding factors E12/E47, E2A, ITF1, TCF3) influences gene expression during B cell maturation. 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 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. Braun, T., et al. 1989. A novel human muscle factor related to but distinct from MyoD1 induces myogenic conversion in 10T1/2 fibroblasts. *EMBO J.* 8: 701-709.
2. Wright, W.E., et al. 1989. Myogenin, a factor regulating myogenesis, has a domain homologous to MyoD. *Cell* 56: 607-617.
3. 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.
4. Rhodes, S.J. et al. 1989. Identification of MRF4: a new member of the muscle regulatory factor gene family. *Genes Dev.* 3: 2050-2061.
5. Miner, J.H. et al. 1990. Herculin, a fourth member of the MyoD 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 ITF-2 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.
9. King, A.M., et al. 2007. Accelerated notch-dependent degradation of E47 proteins in aged B cell precursors is associated with increased ERK MAPK activation. *J. Immunol.* 178: 3521-3529.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Tcf2a (mouse) mapping to 10 C1.

PRODUCT

E2A (m2): 293T Lysate represents a lysate of mouse E2A transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

E2A (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive E2A antibodies. Recommended use: 10-20 µl per lane.

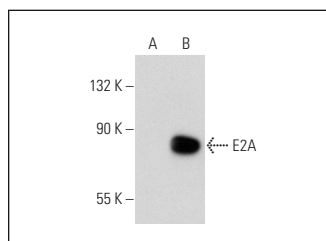
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

E2A (Yae): sc-416 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse E2A expression in E2A transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



E2A (Yae): sc-416. Western blot analysis of E2A expression in non-transfected: sc-117752 (A) and mouse E2A transfected: sc-119881 (B) 293T whole cell lysates.

RESEARCH USE

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