

E2A (V-18): sc-349



The Power to Question

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 myoD. 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: TCF3 (human) mapping to 19p13.3; Tcf3 (mouse) mapping to 10 C1.

SOURCE

E2A (V-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of E2A 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-349 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-349 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

E2A (V-18) is recommended for detection of E2A isoforms E12 and E47 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

E2A (V-18) is also recommended for detection of E2A isoforms E12 and E47 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for E2A siRNA (h): sc-35245, E2A siRNA (m): sc-35246, E2A shRNA Plasmid (h): sc-35245-SH, E2A shRNA Plasmid (m): sc-35246-SH, E2A shRNA (h) Lentiviral Particles: sc-35245-V and E2A shRNA (m) Lentiviral Particles: sc-35246-V.

Molecular Weight (predicted) of E2A: 67 kDa.

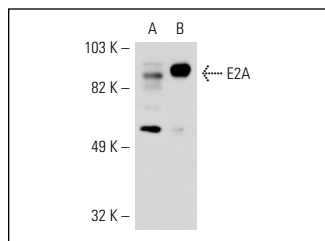
Molecular Weight (observed) of E2A: 63-92 kDa.

Positive Controls: E2A (m): 293 Lysate: sc-111268.

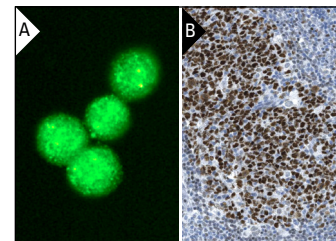
STORAGE

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

DATA



E2A (V-18): sc-349. Western blot analysis of E2A expression in non-transfected: sc-110760 (A) and mouse E2A transfected: sc-111268 (B) 293 whole cell lysates.



E2A (V-18): sc-349. Immunofluorescence staining of methanol-fixed K-562 cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear staining of reaction center cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

- Johnson, S.E., et al. 1996. Casein kinase II increases the transcriptional activities of MRF4 and MyoD independently of their direct phosphorylation. *Mol. Cell. Biol.* 16: 1604-1613.
- Jiang, X.X., et al. 2011. Control of B cell development by the histone H2A deubiquitinase MYSM1. *Immunity* 35: 883-896.
- Karczewski, K.J., et al. 2011. Cooperative transcription factor associations discovered using regulatory variation. *Proc. Natl. Acad. Sci. USA* 108: 13353-13358.
- Wood, M.A., et al. 2011. Upstream stimulatory factor induces Nr5a1 and Shbg gene expression during the onset of rat Sertoli cell differentiation. *Biol. Reprod.* 85: 965-976.
- Hodawadekar, S., et al. 2012. A developmentally controlled competitive STAT5-PU.1 DNA binding mechanism regulates activity of the Ig κ E3' enhancer. *J. Immunol.* 188: 2276-2284.
- Barneda-Zahonero, B., et al. 2013. HDAC7 is a repressor of myeloid genes whose downregulation is required for transdifferentiation of pre-B cells into macrophages. *PLoS Genet.* 9: e1003503.
- Gow, C.H., et al. 2014. Differential involvement of E2A-corepressor interactions in distinct leukemogenic pathways. *Nucleic Acids Res.* 42: 137-152.

RESEARCH USE

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



Try **E2A (G-2): sc-133075** or **E2A (D-7): sc-133074**, our highly recommended monoclonal alternatives to E2A (V-18). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **E2A (G-2): sc-133075**.