

E2F-4 (D-3): sc-6851

BACKGROUND

The human retinoblastoma gene product appears to play an important role in the negative regulation of cell proliferation. Functional inactivation of Rb can be mediated either through mutation or as a consequence of interaction with DNA tumor virus-encoded proteins. Of all the Rb associations described to date, the identification of a complex between Rb and the transcription factor E2F most directly implicates Rb in regulation of cell proliferation. E2F was originally identified through its role in transcriptional activation of the adenovirus E2 promoter. Sequences homologous to the E2F binding site have been found upstream of a number of genes that encode proteins with putative functions in the G₁ and S phases of the cell cycle. E2F-1 is a member of a broader family of transcription regulators including E2F-2, E2F-3, E2F-4, E2F-5, E2F-6 and E2F-7 each of which forms heterodimers with a second protein, DP-1, forming an "active" E2F transcriptional regulatory complex.

CHROMOSOMAL LOCATION

Genetic locus: E2F4 (human) mapping to 16q22.1; E2f4 (mouse) mapping to 8 D3.

SOURCE

E2F-4 (D-3) is a mouse monoclonal antibody raised against amino acids 108-300 of E2f-4 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain 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-6851 X, 200 µg/0.1 ml.

E2F-4 (D-3) is available conjugated to agarose (sc-6851 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; and to HRP (sc-6851 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

APPLICATIONS

E2F-4 (D-3) is recommended for detection of E2F-4 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for E2F-4 siRNA (h): sc-29300, E2F-4 siRNA (m): sc-35248, E2F-4 shRNA Plasmid (h): sc-29300-SH, E2F-4 shRNA Plasmid (m): sc-35248-SH, E2F-4 shRNA (h) Lentiviral Particles: sc-29300-V and E2F-4 shRNA (m) Lentiviral Particles: sc-35248-V.

E2F-4 (D-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

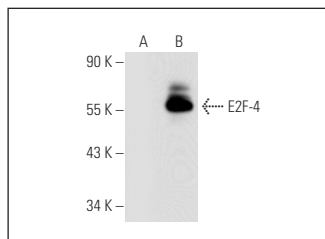
Molecular Weight of E2F-4: 60 kDa.

Positive Controls: MEG-01 nuclear extract: sc-2150, E2F-4 (m2): 293T Lysate: sc-119883 or Jurkat nuclear extract: sc-2132.

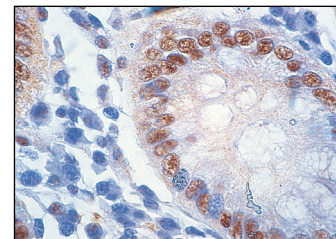
STORAGE

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

DATA



E2F-4 (D-3): sc-6851. Western blot analysis of E2F-4 expression in non-transfected: sc-117752 (A) and mouse E2F-4 transfected: sc-119883 (B) 293T whole cell lysates.



E2F-4 (D-3): sc-6851. Immunoperoxidase staining of formalin-fixed, paraffin-embedded normal human colon tissue. Note nuclear staining of epithelia.

SELECT PRODUCT CITATIONS

1. Paramio, J.M., et al. 2000. Opposite functions for E2F-1 and E2F-4 in human epidermal keratinocyte differentiation. *J. Biol. Chem.* 275: 41219-41226.
2. Ho, G.H., et al. 2001. Expression of E2F-1 and E2F-4 is reduced in primary and metastatic breast carcinomas. *Breast Cancer Res. Treat.* 69: 115-122.
3. Polzin, R.G., et al. 2004. E2F sites in the Op18 promoter are required for high level of expression in the human prostate carcinoma cell line PC-3-M. *Gene* 341: 209-218.
4. Feng, W., et al. 2007. Multiple histone deacetylases repress tumor suppressor gene ARHI in breast cancer. *Int. J. Cancer* 120: 1664-1668.
5. McClellan, K.A., et al. 2009. p107/E2F pathway regulates FGF-2 responsiveness in neural precursor cells. *Mol. Cell. Biol.* 29: 4701-4713.
6. Yang, L., et al. 2011. NcRNA- and Pc2 methylation-dependent gene relocation between nuclear structures mediates gene activation programs. *Cell* 147: 773-788.
7. Petrov, N., et al. 2012. Induction of Wnt/β-catenin signaling in mouse mesenchymal stem cells is associated with activation of the p130 and E2F4 and formation of the p130/Gsk3β/β-catenin complex. *Stem Cells Dev.* 21: 589-597.
8. Gong, J., et al. 2020. LncRNA HAND2-AS1 represses cervical cancer progression by interaction with transcription factor E2F4 at the promoter of C16orf74. *J. Cell. Mol. Med.* 24: 6015-6027.

RESEARCH USE

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



CONJUGATES

See **E2F-4 (D-7): sc-398543** for E2F-4 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.