SANTA CRUZ BIOTECHNOLOGY, INC.

E2F-4 (C-108): sc-512

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 G_1 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 and E2F-6, 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 (C-108) is a rabbit polyclonal antibody raised against amino acids 108-300 of E2F-4 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-512 X, 200 µg/0.1 ml.

APPLICATIONS

E2F-4 (C-108) 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); partially cross reactive with E2F-1, E2F-2, E2F-3 and E2F-5; non cross-reactive with E2F6.

E2F-4 (C-108) is also recommended for detection of E2F-4 in additional species, including equine, canine, bovine and porcine.

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 (C-108) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of E2F-4: 60 kDa.

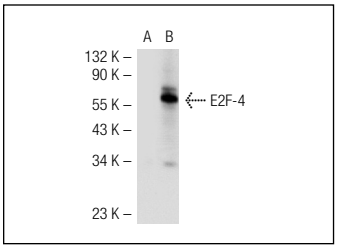
RESEARCH USE

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

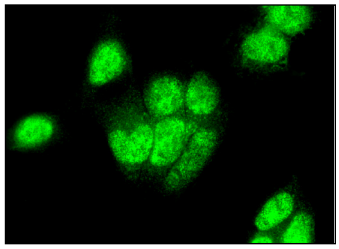
STORAGE

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

DATA



E2F-4 (C-108): sc-512. 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 (C-108): sc-512. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Mayol, X., et al. 1996. G_1 cyclin/CDK-independent phosphorylation and accumulation of p130 during the transition from G_1 to G_0 lead to its association with E2F-4. Oncogene 13: 237-246.
2. Fujita, N., et al. 2002. Differences in E2F subunit expression in quiescent and proliferating vascular smooth muscle cells. Am. J. Physiol. Heart Circ. Physiol. 283: H204-H212.
3. Hauck, L. and von Harsdorf, R. 2005. E2F transcription factors and pRb pocket proteins in cell cycle progression. Methods Mol. Biol. 296: 239-245.
4. Zhang, L. and Wang, C. 2006. F-box protein Skp2: a novel transcriptional target of E2F. Oncogene 25: 2615-2627.
5. Bindra, R.S. and Glazer, P.M. 2007. Repression of RAD51 gene expression by E2F4/p130 complexes in hypoxia. Oncogene 26: 2048-2057.
6. Everly, D.N., et al. 2009. Transcriptional downregulation of p27KIP1 through regulation of E2F function during LMP1-mediated transformation. J. Virol. 83: 12671-12679.
7. Alvaro-Blanco, J., et al. 2009. A novel factor distinct from E2F mediates C-MYC promoter activation through its E2F element during exit from quiescence. Carcinogenesis 30: 440-448.
8. Jayadeva, G., et al. 2010. B55α PP2A holoenzymes modulate the phosphorylation status of the retinoblastoma-related protein p107 and its activation. J. Biol. Chem. 285: 29863-29873.
9. Costa, C., et al. 2012. E2F1 loss induces spontaneous tumour development in Rb-deficient epidermis. Oncogene 32: 2937-2951.