SANTA CRUZ BIOTECHNOLOGY, INC.

E2F-4 (A-20): sc-1082

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, E2F5 (human) mapping to 8q21.2; E2f4 (mouse) mapping to 8 D3, E2f5 (mouse) mapping to 3 A1.

SOURCE

E2F-4 (A-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of E2F-4 of human origin.

PRODUCT

Each vial contains 100 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-1082 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-1082 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

E2F-4 (A-20) is recommended for detection of E2F-4, and to a lesser extent, E2F-5 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

E2F-4 (A-20) is also recommended for detection of E2F-4, and to a lesser extent, E2F-5 in additional species, including equine, canine, bovine, porcine and avian.

E2F-4 (A-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of E2F-4: 60 kDa.

Positive Controls: E2F-4 (m): 293T Lysate: sc-119883.

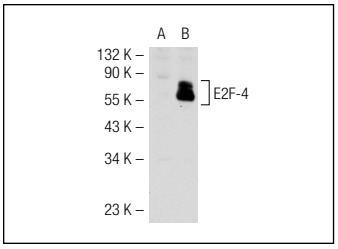
STORAGE

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

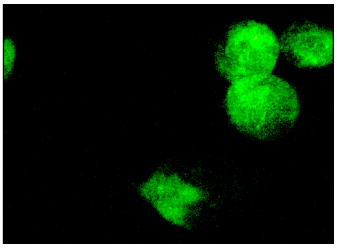
RESEARCH USE

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

DATA



E2F-4 (A-20): sc-1082. 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 (A-20): sc-1082. Immunofluorescence staining of methanol-fixed Jurkat cells showing nuclear staining.

SELECT PRODUCT CITATIONS

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4. Sáenz-Robles, M.T., et al. 2007. Intestinal hyperplasia induced by simian virus 40 large tumor antigen requires E2F2. J. Virol. 81: 13191-13199.
5. Morris, E.J., et al. 2008. E2F1 represses β-catenin transcription and is antagonized by both pRB and CDK8. Nature 455: 552-556.
6. Freedman, J.A., et al. 2009. A combinatorial mechanism for determining the specificity of E2F activation and repression. Oncogene 28: 2873-2881
7. Caldon, C.E., et al. 2009. Estrogen regulation of cyclin E2 requires cyclin D1 but not c-Myc. Mol. Cell. Biol. 29: 4623-4639.
8. Wirt, S.E., et al. 2010. G_1 arrest and differentiation can occur independently of Rb family function. J. Cell Biol. 191: 809-825.
9. van Oevelen, C., et al. 2010. The mammalian Sin3 proteins are required for muscle development and sarcomere specification. Mol. Cell. Biol. 30: 5686-5697.
10. Flowers, S., et al. 2011. Tissue-specific gene targeting by the multiprotein mammalian DREAM complex. J. Biol. Chem. 286: 27867-27871.