SANTA CRUZ BIOTECHNOLOGY, INC.

E2F-5 (C-20): sc-1083

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: E2F5 (human) mapping to 8q21.2, E2F4 (human) mapping to 16q22.1; E2f5 (mouse) mapping to 3 A1, E2f4 (mouse) mapping to 8 D3.

SOURCE

E2F-5 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of E2F-5 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.

Blocking peptide available for competition studies, sc-1083 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-1083 X, 200 µg/0.1 ml.

APPLICATIONS

E2F-5 (C-20) is recommended for detection of E2F-5 and to a lesser extent, E2F-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

E2F-5 (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of E2F-5: 59 kDa.

Positive Controls: human hair protein extract.

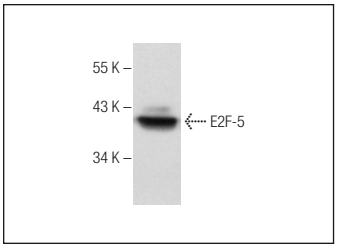
STORAGE

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

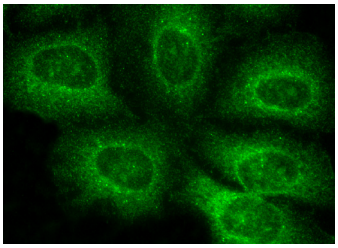
RESEARCH USE

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

DATA



E2F-5 (C-20): sc-1083. Western blot analysis of E2F-5 expression in human hair protein extract.



E2F-5 (C-20): sc-1083. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. DeGregori, J., et al. 1997. Distinct roles for E2F proteins in cell growth control and apoptosis. Proc. Natl. Acad. Sci. USA 94: 7245-7250.
2. Wells, J., et al. 2000. Target gene specificity of E2F and pocket protein family members in living cells. Mol. Cell. Biol. 20: 5797-5807.
3. Albert, T., et al. 2001. The chromatin structure of the dual c-Myc promoter P1/P2 is regulated by separate elements. J. Biol. Chem. 276: 20482-20490.
4. Lee, E.Y., et al. 2002. E2F4 loss suppresses tumorigenesis in Rb mutant mice. Cancer Cell 2: 463-472.
5. von Willebrand, M., et al. 2003. The tyrphostin AG1024 accelerates the degradation of phosphorylated forms of retinoblastoma protein (pRb) and restores pRb tumor suppressive function in melanoma cells. Cancer Res. 63: 1420-1429.
6. Keenan, S.M., et al. 2004. Expression of cyclin E renders cyclin D-CDK4 dispensable for inactivation of the retinoblastoma tumor suppressor protein, activation of E2F, and G_1-S phase progression. J. Biol. Chem. 279: 5387-5396.
7. Venugopal, J., et al. 2004. Identification and modulation of a caveolae-dependent signal pathway that regulates plasminogen activator inhibitor-1 in insulin-resistant adipocytes. Proc. Natl. Acad. Sci. USA 49: 17120-17125.
8. Lu, Z., et al. 2006. E2F-HDAC complexes negatively regulate the tumor suppressor gene ARHI in breast cancer. Oncogene 25: 230-239.
9. Liu, W., et al. 2010. PHF8 mediates histone H4 lysine 20 demethylation events involved in cell cycle progression. Nature 466: 508-512.
10. Martinez, L.A., et al. 2010. E2F3 is a mediator of DNA damage-induced apoptosis. Mol. Cell. Biol. 30: 524-536.