SANTA CRUZ BIOTECHNOLOGY, INC.

E2F-3 (N-20): sc-879

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: E2F3 (human) mapping to 6p22.3; E2f3 (mouse) mapping to 13 A3.2.

SOURCE

E2F-3 (N-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of E2F-3 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-879 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-879 X, 200 µg/0.1 ml.

APPLICATIONS

E2F-3 (N-20) is recommended for detection of E2F-3 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).

E2F-3 (N-20) is also recommended for detection of E2F-3 in additional species, including equine and bovine.

Suitable for use as control antibody for E2F-3 siRNA (h): sc-37817, E2F-3 siRNA (m): sc-37818, E2F-3 shRNA Plasmid (h): sc-37817-SH, E2F-3 shRNA Plasmid (m): sc-37818-SH, E2F-3 shRNA (h) Lentiviral Particles: sc-37817-V and E2F-3 shRNA (m) Lentiviral Particles: sc-37818-V.

E2F-3 (N-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

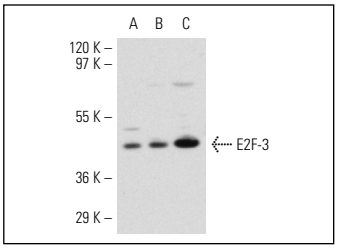
Molecular Weight of E2F-3: 45 kDa.

Positive Controls: KNRK nuclear extract: sc-2141, NIH/3T3 nuclear extract: sc-2138 or K-562 nuclear extract: sc-2130.

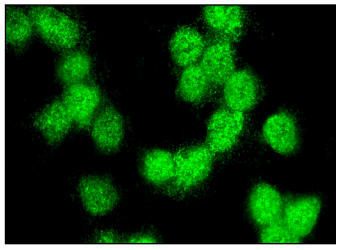
STORAGE

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

DATA



E2F-3 (N-20): sc-879. Western blot analysis of E2F-3 expression in KNRK (**A**), NIH/3T3 (**B**) and K-562 (**C**) nuclear extracts.



E2F-3 (N-20): sc-879. Immunofluorescence staining of formalin-fixed HepG2 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Liu, N., et al. 1997. CDF-1, a novel E2F-unrelated factor, interacts with cell cycle-regulated repressor elements in multiple promoters. Nucleic Acids Res. 25: 4915-4920.
2. Zhang, Y., et al. 2009. MicroRNA-128 inhibits glioma cells proliferation by targeting transcription factor E2F3a. J. Mol. Med. 87: 43-51.
3. Martinez, L.A., et al. 2010. E2F3 is a mediator of DNA damage-induced apoptosis. Mol. Cell. Biol. 30: 524-536.
4. Bueno, M.J., et al. 2010. Multiple E2F-induced microRNAs prevent replicative stress in response to mitogenic signaling. Mol. Cell. Biol. 30: 2983-2995.
5. Liu, W., et al. 2010. PHF8 mediates histone H4 lysine 20 demethylation events involved in cell cycle progression. Nature 466: 508-512.
6. Zhang, L., et al. 2010. microRNA-141 is involved in a nasopharyngeal carcinoma-related genes network. Carcinogenesis 31: 559-566.
7. Zhu, H., et al. 2011. EGFR signals downregulate tumor suppressors miR-143 and miR-145 in Western diet-promoted murine colon cancer: role of G_1 regulators. Mol. Cancer Res. 9: 960-975.
8. Lin, Y., et al. 2012. Cyclin-dependent kinase 4 is a novel target in micoRNA-195-mediated cell cycle arrest in bladder cancer cells. FEBS Lett. 586: 442-447.

RESEARCH USE

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