SANTA CRUZ BIOTECHNOLOGY, INC.

E2F-5 (MH-5): sc-968

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.

REFERENCES

1. Chellappan, S., et al. 1991. The E2F transcription factor is a cellular target for the Rb protein. Cell 65: 1053-1061.
2. Chittenden, T., et al. 1991. The T/E1A-binding domain of the retinoblastoma product can interact selectively with a sequence-specific DNA-binding protein. Cell 65: 1073-1082.
3. Helin, K., et al. 1992. A cDNA encoding a pRB-binding protein with properties of the transcription factor E2F. Cell 70: 337-350.

CHROMOSOMAL LOCATION

Genetic locus: E2F5 (human) mapping to 8q21.2; E2f5 (mouse) mapping to 3 A1.

SOURCE

E2F-5 (MH-5) is a mouse monoclonal antibody raised against amino acids 89-346 of E2F-5 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

E2F-5 (MH-5) is recommended for detection of 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for E2F-5 siRNA (h): sc-35250, E2F-5 siRNA (m): sc-35249, E2F-5 shRNA Plasmid (h): sc-35250-SH, E2F-5 shRNA Plasmid (m): sc-35249-SH, E2F-5 shRNA (h) Lentiviral Particles: sc-35250-V and E2F-5 shRNA (m) Lentiviral Particles: sc-35249-V.

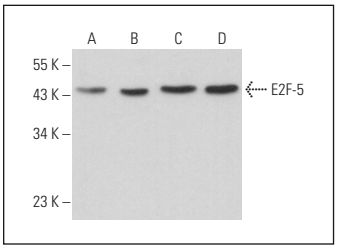
Molecular Weight of E2F-5: 59 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, MM-142 cell lysate: sc-2246 or Raji whole cell lysate: sc-364236.

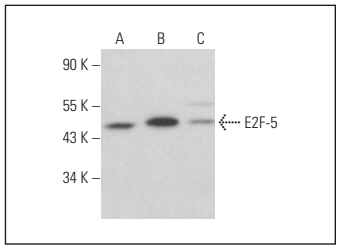
STORAGE

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

DATA



E2F-5 (MH-5): sc-968. Western blot analysis of E2F-5 expression in MEG-01 (**A**), MM-142 (**B**), HL-60 (**C**) and Raji (**D**) whole cell lysates.



E2F-5 (MH-5): sc-968. Western blot analysis of E2F-5 expression in Raji (**A**), NAMALWA (**B**) and WR19L (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Huet, X., et al. 1996. Cyclin A expression is under negative transcriptional control during the cell cycle. Mol. Cell. Biol. 16: 3789-3798.
2. Palena, A., et al. 2000. E2F transcription factors are differentially expressed in murine gametes and early embryos. Mech. Dev. 97: 211-215.
3. Kusek, J.C., et al. 2000. Expression of the E2F family of transcription factors during murine development. Int. J. Dev. Biol. 44: 267-277.
4. Kusek, J.C., et al. 2001. Expression of the E2F and retinoblastoma families of proteins during neural differentiation. Brain Res. Bull. 54: 187-198.
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6. Vara, D., et al. 2003. Inhibition of E2F abrogates the development of cardiac myocyte hypertrophy. J. Biol. Chem. 278: 21388-21394.
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8. Ohdaira, H., et al. 2010. A subset of microRNAs potentially acts as a convergent hub for upstream transcription factors in cancer cells. Oncol. Rep. 24: 1371-1381.
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10. Flowers, S., et al. 2013. Cooperative activation of tissue-specific genes by pRB and E2F-1. Cancer Res. 73: 2150-2158.
11. Flowers, S., et al. 2014. p107-dependent recruitment of SWI/SNF to the alkaline phosphatase promoter during osteoblast differentiation. Bone 69: 47-54.

RESEARCH USE

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