

# E2F-4 (D-7): sc-398543

## 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<sub>1</sub> 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, E2F-6 and E2F-7 each of which forms heterodimers with a second protein, DP-1, forming an "active" E2F transcriptional regulatory complex.

## REFERENCES

- Chellappan, S., et al. 1991. The E2F transcription factor is a cellular target for the Rb protein. *Cell* 65: 1053-1061.
- 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.

## CHROMOSOMAL LOCATION

Genetic locus: E2F4 (human) mapping to 16q22.1; E2f4 (mouse) mapping to 8 D3.

## SOURCE

E2F-4 (D-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 385-413 at the C-terminus of E2F-4 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain 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-398543 X, 200 µg/0.1 ml.

E2F-4 (D-7) is available conjugated to agarose (sc-398543 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398543 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398543 PE), fluorescein (sc-398543 FITC), Alexa Fluor® 488 (sc-398543 AF488), Alexa Fluor® 546 (sc-398543 AF546), Alexa Fluor® 594 (sc-398543 AF594) or Alexa Fluor® 647 (sc-398543 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398543 AF680) or Alexa Fluor® 790 (sc-398543 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398543 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## STORAGE

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

## APPLICATIONS

E2F-4 (D-7) is recommended for detection of E2F-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

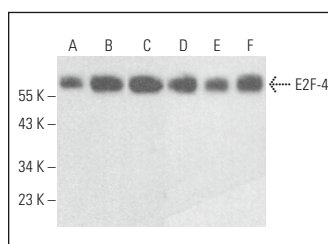
Suitable for use as control antibody for E2F-4 siRNA (h): sc-29300, E2F-4 siRNA (m): sc-35248, E2F-4 shRNA Plasmid (h): sc-29300-SH, E2F-4 shRNA Plasmid (m): sc-35248-SH, E2F-4 shRNA (h) Lentiviral Particles: sc-29300-V and E2F-4 shRNA (m) Lentiviral Particles: sc-35248-V.

E2F-4 (D-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

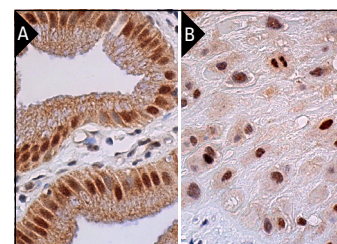
Molecular Weight of E2F-4: 60 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, Raji whole cell lysate: sc-364236 or MCF7 whole cell lysate: sc-2206.

## DATA



E2F-4 (D-7): sc-398543. Western blot analysis of E2F-4 expression in MEG-01 (A), Raji (B), HL-60 (C), NAMALWA (D), MCF7 (E) and Hep G2 (F) whole cell lysates.



E2F-4 (D-7): sc-398543. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing nuclear and cytoplasmic staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing nuclear staining of decidual cells (B).

## SELECT PRODUCT CITATIONS

- Bainor, A.J., et al. 2018. The HDAC-associated Sin3B protein represses DREAM complex targets and cooperates with APC/C to promote quiescence. *Cell Rep.* 25: 2797-2807.e8.
- Roelofs, P.A., et al. 2020. Characterization of the mechanism by which the RB/E2F pathway controls expression of the cancer genomic DNA deaminase APOBEC3B. *Elife* 9: e61287.
- Kim, M.J., et al. 2021. PAF remodels the DREAM complex to bypass cell quiescence and promote lung tumorigenesis. *Mol. Cell* 81: 1698-1714.e6.
- Taverniti, V., et al. 2023. The E2F4/p130 repressor complex cooperates with oncogenic ΔNp73α to inhibit gene expression in human papillomavirus 38 E6/E7-transformed keratinocytes and in cancer cells. *mSphere* 8: e0005623.

## RESEARCH USE

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