

E2F-2 (TFE-25): sc-9967

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 adeno-virus E2 promoter. Sequences that are homologous to the E2F binding site have been found upstream of a number of genes that encode proteins with putative functions in the G₁ 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: E2F2 (human) mapping to 1p36.12; E2f2 (mouse) mapping to 4 D3.

SOURCE

E2F-2 (TFE-25) is a mouse monoclonal antibody raised against full length E2F-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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-9967 X, 200 µg/0.1 ml.

E2F-2 (TFE-25) is available conjugated to agarose (sc-9967 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-9967 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-9967 PE), fluorescein (sc-9967 FITC), Alexa Fluor® 488 (sc-9967 AF488), Alexa Fluor® 546 (sc-9967 AF546), Alexa Fluor® 594 (sc-9967 AF594) or Alexa Fluor® 647 (sc-9967 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-9967 AF680) or Alexa Fluor® 790 (sc-9967 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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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-2 (TFE-25) is recommended for detection of E2F-2 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), 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).

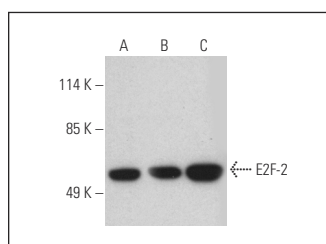
Suitable for use as control antibody for E2F-2 siRNA (h): sc-29298, E2F-2 siRNA (m): sc-29299, E2F-2 shRNA Plasmid (h): sc-29298-SH, E2F-2 shRNA Plasmid (m): sc-29299-SH, E2F-2 shRNA (h) Lentiviral Particles: sc-29298-V and E2F-2 shRNA (m) Lentiviral Particles: sc-29299-V.

E2F-2 (TFE-25) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

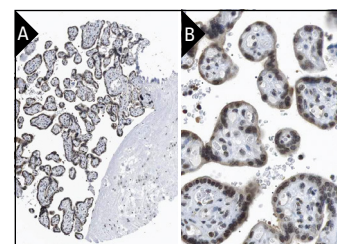
Molecular Weight of E2F-2: 55 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, KNRK nuclear extract: sc-2141 or Ramos cell lysate: sc-2216.

DATA



E2F-2 (TFE-25) HRP: sc-9967 HRP. Direct western blot analysis of E2F-2 expression in KNRK nuclear extract (A) and PC-12 (B) and Ramos (C) whole cell lysates.



E2F-2 (TFE-25): sc-9967. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing nuclear and cytoplasmic staining of trophoblastic cells at low (A) and high (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Angus, S.P., et al. 2002. Active RB elicits late G₁/S inhibition. *Exp. Cell Res.* 276: 201-213.
2. Wu, S.C. and Benavente, C.A. 2018. Chromatin remodeling protein HELLS is upregulated by inactivation of the RB-E2F pathway and is nonessential for osteosarcoma tumorigenesis. *Oncotarget* 9: 32580-32592.
3. Judd, J., et al. 2019. Defined factors to reactivate cell cycle activity in adult mouse cardiomyocytes. *Sci. Rep.* 9: 18830.
4. Cataldo, A., et al. 2020. MiR-302b as a combinatorial therapeutic approach to improve cisplatin chemotherapy efficacy in human triple-negative breast cancer. *Cancers* 12: 2261.
5. Chen, C., et al. 2021. The RNA-binding protein NELFE promotes gastric cancer growth and metastasis through E2F2. *Front. Oncol.* 11: 677111.

RESEARCH USE

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