

# E2F-1 (KH129): sc-56661

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: E2F1 (human) mapping to 20q11.22; E2f1 (mouse) mapping to 2 H1.

## SOURCE

E2F-1 (KH129) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 386-409 of E2F-1 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.

## APPLICATIONS

E2F-1 (KH129) is recommended for detection of E2F-1 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for E2F-1 siRNA (h): sc-29297, E2F-1 siRNA (m): sc-35247, E2F-1 siRNA (r): sc-61861, E2F-1 shRNA Plasmid (h): sc-29297-SH, E2F-1 shRNA Plasmid (m): sc-35247-SH, E2F-1 shRNA Plasmid (r): sc-61861-SH, E2F-1 shRNA (h) Lentiviral Particles: sc-29297-V, E2F-1 shRNA (m) Lentiviral Particles: sc-35247-V and E2F-1 shRNA (r) Lentiviral Particles: sc-61861-V.

Molecular Weight of E2F-1: 60 kDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270, HeLa whole cell lysate: sc-2200 or MOLT-4 cell lysate: sc-2233.

## RESEARCH USE

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

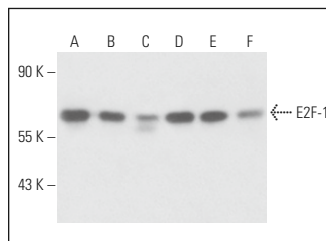
## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

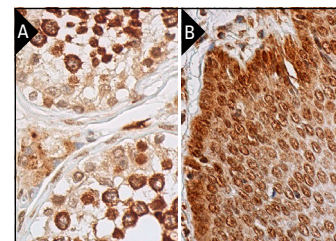
## STORAGE

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

## DATA



E2F-1 (KH129): sc-56661. Western blot analysis of E2F-1 expression in MOLT-4 (A), HeLa (B), HEL 92.1.7 (C) and NAMALWA (D) whole cell lysates and K-562 (E) and HeLa (F) nuclear extracts.



E2F-1 (KH129): sc-56661. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts and cytoplasmic staining of Leydig cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human vagina tissue showing nuclear staining of squamous epithelial cells (B).

## SELECT PRODUCT CITATIONS

- Gadd, M., et al. 2001. Regulation of cyclin D1 and p16<sup>INK4A</sup> is critical for growth arrest during mammary involution. *Cancer Res.* 61: 8811-8819.
- Bug, M. and Dobbstein, M. 2011. Anthracyclines induce the accumulation of mutant p53 through E2F1-dependent and -independent mechanisms. *Oncogene* 30: 3612-3624.
- Kumarasamy, V.M., et al. 2015. Selective repression of RET proto-oncogene in medullary thyroid carcinoma by a natural alkaloid berberine. *BMC Cancer* 15: 599.
- You, D., et al. 2016. Acetylation enhances the promoting role of AIB1 in breast cancer cell proliferation. *Mol. Cells* 39: 663-668.
- Bai, L., et al. 2020. *In vitro* effect and mechanism of action of ergot alkaloid dihydroergocristine in chemoresistant prostate cancer cells. *Anticancer Res.* 40: 6051-6062.
- Kuganesan, N., et al. 2021. Tumor suppressor p53 promotes ferroptosis in oxidative stress conditions independent of modulation of ferroptosis by p21, CDKs, Rb and E2F. *J. Biol. Chem.* 297: 101365.
- Lee, M., et al. 2022. Obesity-induced galectin-9 is a therapeutic target in B-cell acute lymphoblastic leukemia. *Nat. Commun.* 13: 1157.
- Kuganesan, N., et al. 2023. Regulation of ferroptosis by transcription factor E2F1 and RB. *Res. Sq.* E-published.
- Alqahtani, T., et al. 2024. A novel role for nonactin: interfering with G-quadruplex in RET-driven medullary thyroid cancer. *BMC Cancer* 24: 1569.



See **E2F-1 (KH95): sc-251** for E2F-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.