

DP-1 (TFD-11): sc-56657

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 G₁ and S phases of the cell cycle. E2F-1 forms heterodimers with a second protein, designated DP-1, forming an "active" E2F transcriptional regulatory complex. Additional members of the E2F family include E2F-2, E2F-3, E2F-4, E2F-5 and DP-2.

REFERENCES

1. Helin, K., et al. 1992. A cDNA encoding a pRB-binding protein with properties of the transcription factor E2F. *Cell* 70: 337-350.
2. Nevins, J.R. 1992. E2F: a link between the Rb tumor suppressor protein and viral oncoproteins. *Science* 258: 424-429.

CHROMOSOMAL LOCATION

Genetic locus: TFPD1 (human) mapping to 13q34; Tfdp1 (mouse) mapping to 8 A1.1.

SOURCE

DP-1 (TFD-11) is a mouse monoclonal antibody raised against full length DP-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

DP-1 (TFD-11) is recommended for detection of DP-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), 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 DP-1 siRNA (h): sc-37813, DP-1 siRNA (m): sc-37814, DP-1 shRNA Plasmid (h): sc-37813-SH, DP-1 shRNA Plasmid (m): sc-37814-SH, DP-1 shRNA (h) Lentiviral Particles: sc-37813-V and DP-1 shRNA (m) Lentiviral Particles: sc-37814-V.

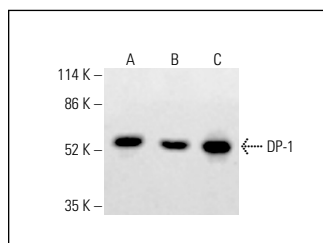
Molecular Weight of DP-1: 49 kDa.

Positive Controls: DP-1 (h2): 293T Lysate: sc-159192, A-431 nuclear extract: sc-2122 or HeLa nuclear extract: sc-2120.

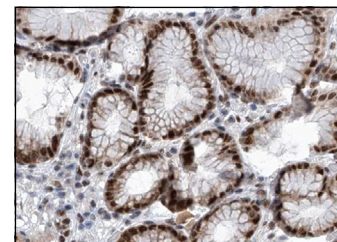
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



DP-1 (TFD-11): sc-56657. Western blot analysis of DP-1 expression in HeLa (A), K-562 (B) and HCT-116 (C) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



DP-1 (TFD-11): sc-56657. Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing nuclear staining of glandular cells at high magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Jiang, W., 2013. Influenza A virus NS1 induces G₀/G₁ cell cycle arrest by inhibiting the expression and activity of RhoA protein. *J. Virol.* 87: 3039-3052.
2. Nath, S., et al. 2015. Deregulation of Rb-E2F1 axis causes chromosomal instability by engaging the transactivation function of Cdc20-anaphase-promoting complex/cyclosome. *Mol. Cell. Biol.* 35: 356-369.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.