

DP-1 (TFD-10): sc-53642

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.

CHROMOSOMAL LOCATION

Genetic locus: TFDP1 (human) mapping to 13q34; Tfdp1 (mouse) mapping to 8 A1.1.

SOURCE

DP-1 (TFD-10) is a mouse monoclonal antibody raised against amino acids 83-204 of DP-1 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.

DP-1 (TFD-10) is available conjugated to agarose (sc-53642 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53642 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53642 PE), fluorescein (sc-53642 FITC), Alexa Fluor® 488 (sc-53642 AF488), Alexa Fluor® 546 (sc-53642 AF546), Alexa Fluor® 594 (sc-53642 AF594) or Alexa Fluor® 647 (sc-53642 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53642 AF680) or Alexa Fluor® 790 (sc-53642 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

DP-1 (TFD-10) 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

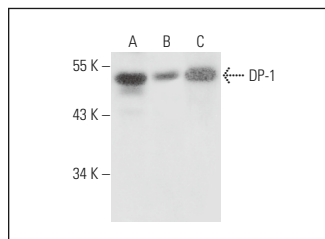
Molecular Weight of DP-1: 49 kDa.

Positive Controls: HUV-EC-C whole cell lysate: sc-364180, Hep G2 cell lysate: sc-2227 or MCF7 whole cell lysate: sc-2206.

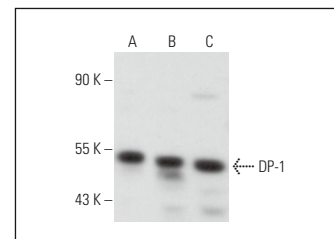
STORAGE

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

DATA



DP-1 (TFD-10): sc-53642. Western blot analysis of DP-1 expression in HUV-EC-C (A), Hep G2 (B) and MCF7 (C) whole cell lysates.



DP-1 (TFD-10): sc-53642. Western blot analysis of DP-1 expression in A-431 nuclear extract (A) and HL-60 (B) and NIH/3T3 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Mitomi, H., et al. 2011. Role for p16^{INK4a} in progression of gastrointestinal stromal tumors of the stomach: alteration of p16^{INK4a} network members. *Hum. Pathol.* 42: 1505-1513.
- Docquier, A., et al. 2012. The RIP140 gene is a transcriptional target of E2F1. *PLoS ONE* 7: e35839.
- Leung, J.Y. and Nevins, J.R. 2012. E2F6 associates with BRG1 in transcriptional regulation. *PLoS ONE* 7: e47967.
- Peng, Y.T., et al. 2015. Upregulation of cyclin-dependent kinase inhibitors CDKN1B and CDKN1C in hepatocellular carcinoma-derived cells via goniothalamin-mediated protein stabilization and epigenetic modifications. *Toxicol. Rep.* 2: 322-332.
- Fulciniti, M., et al. 2018. Non-overlapping control of transcriptome by promoter- and super-enhancer-associated dependencies in multiple myeloma. *Cell Rep.* 25: 3693-3705.e6.
- Hsu, J., et al. 2019. E2F4 regulates transcriptional activation in mouse embryonic stem cells independently of the RB family. *Nat. Commun.* 10: 2939.
- Wu, W.R., et al. 2020. Amplification-driven BCL6-suppressed cytostasis is mediated by transrepression of FOXO3 and post-translational modifications of FOXO3 in urinary bladder urothelial carcinoma. *Theranostics* 10: 707-724.
- Dash, P., et al. 2022. High PGD₂ receptor 2 levels are associated with poor prognosis in colorectal cancer patients and induce VEGF expression in colon cancer cells and migration in a zebrafish xenograft model. *Br. J. Cancer* 126: 586-597.
- Cao, L.L., et al. 2023. CDK5 promotes apoptosis and attenuates chemoresistance in gastric cancer via E2F1 signaling. *Cancer Cell Int.* 23: 286.

RESEARCH USE

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