SANTA CRUZ BIOTECHNOLOGY, INC.

DP-1 (K-20): sc-610

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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_1 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 (K-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of DP-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG 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-610 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-610 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DP-1 (K-20) 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).

DP-1 (K-20) is also recommended for detection of DP-1 in additional species, including bovine, porcine and avian.

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.

DP-1 (K-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

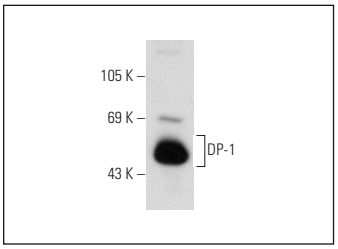
Molecular Weight of DP-1: 49 kDa.

Positive Controls: Daudi cell lysate: sc-2415, A-431 nuclear extract: sc-2122 or HeLa nuclear extract: sc-2120.

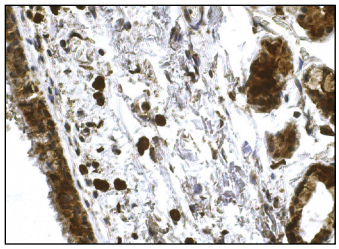
STORAGE

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

DATA



DP-1 (K-20): sc-610. Western blot analysis of DP-1 expression in Daudi whole cell lysate.



DP-1 (K-20): sc-610. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bronchus tissue showing nuclear and cytoplasmic staining of respiratory epithelial cells.

SELECT PRODUCT CITATIONS

1. Tommasi, S. and Pfeifer, G.P. 1995. *In vivo* structure of the human cdc2 promoter: release of a p130-E2F-4 complex from sequences immediately upstream of the transcription initiation site coincides with induction of cdc2 expression. Mol. Cell. Biol. 15: 6901-6913.
2. Morris, E.J., et al. 2008. E2F1 represses β-catenin transcription and is antagonized by both pRB and CDK8. Nature 455: 552-556.
3. Everly, D.N., et al. 2009. Transcriptional downregulation of $p27^{KIP1}$ through regulation of E2F function during LMP1-mediated transformation. J. Virol. 83: 12671-12679.
4. Flowers, S., et al. 2011. Tissue-specific gene targeting by the multiprotein mammalian DREAM complex. J. Biol. Chem. 286: 27867-27871.
5. Ward, M.C., et al. 2011. Deregulated LAP2α expression in cervical cancer associates with aberrant E2F and p53 activities. IUBMB Life 63: 1018-1026.
6. Cabrera, M.C., et al. 2012. The CDK4/6 inhibitor PD0332991 reverses epithelial dysplasia associated with abnormal activation of the cyclin-CDK-Rb pathway. Cancer Prev. Res. 5: 810-821.
7. Leung, J.Y. and Nevins, J.R. 2012. E2F6 associates with BRG1 in transcriptional regulation. PLoS ONE 7: e47967.

RESEARCH USE

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