SANTA CRUZ BIOTECHNOLOGY, INC.

DP-2 (C-20): sc-829

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: TFDP2 (human) mapping to 3q23; Tfdp2 (mouse) mapping to 9 E3.3.

SOURCE

DP-2 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of DP-2 of human origin.

PRODUCT

Each vial contains 200 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-829 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-829 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DP-2 (C-20) is recommended for detection of DP-2 and, to a lesser extent, tubby of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

DP-2 (C-20) is also recommended for detection of DP-2 and, to a lesser extent, tubby in additional species, including equine, canine and porcine.

Suitable for use as control antibody for DP-2 siRNA (h): sc-37815, DP-2 siRNA (m): sc-37816, DP-2 shRNA Plasmid (h): sc-37815-SH, DP-2 shRNA Plasmid (m): sc-37816-SH, DP-2 shRNA (h) Lentiviral Particles: sc-37815-V and DP-2 shRNA (m) Lentiviral Particles: sc-37816-V.

DP-2 (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of DP-2, N-terminally truncated form: 43 kDa.

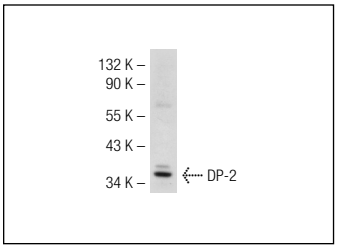
Molecular Weight of DP-2 splice variant: 55 kDa.

Positive Controls: H4 cell lysate: sc-2408.

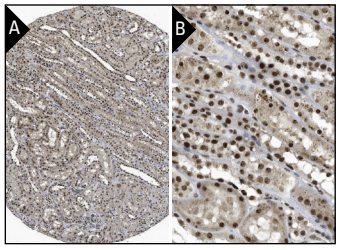
STORAGE

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

DATA



DP-2 (C-20): sc-829. Western blot analysis of DP-2 expression in H4 whole cell lysate.



DP-2 (C-20): sc-829. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing nuclear and cytoplasmic staining of cells in glomeruli and tubules low (**A**) and high (**B**) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Tommasi, S., et al. 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. Ding, Q., et al. 2000. Characterization and regulation of E2F activity during Caco-2 cell differentiation. Am. J. Physiol., Cell Physiol. 278: C110-C117.
3. D'Souza, S., et al. 2001. Ca^{2+} and BMP-6 signaling regulate E2F during epidermal keratinocyte differentiation. J. Biol. Chem. 276: 23531-23538.
4. Vara, D., et al. 2003. Inhibition of E2F abrogates the development of cardiac myocyte hypertrophy. J. Biol. Chem. 278: 21388-21394.
5. Jiang, J., et al. 2003. Flavopiridol-induced apoptosis during S phase requires E2F-1 and inhibition of cyclin A-dependent kinase activity. Cancer Res. 63: 7410-7422.
6. Hauck, L. and von Harsdorf, R. 2005. E2F transcription factors and pRb pocket proteins in cell cycle progression. Methods Mol. Biol. 296: 239-245.
7. Zhang, L., et al. 2010. microRNA-141 is involved in a nasopharyngeal carcinoma-related genes network. Carcinogenesis 31: 559-566.

RESEARCH USE

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