

p-Adenovirus-2 E1A (C-9): sc-374663

BACKGROUND

The early region (E1) of the adenovirus genome, which is responsible for transforming activity, is localized within the leftmost 11% of the viral genome and consists of two transcriptional units, E1A and E1B. Human adenovirus early region 1A (E1A) products act as transcriptional regulators and function by altering DNA synthesis and inducing cell transformation. Adenovirus E1A proteins are phosphorylated nuclear oncoproteins that derive transforming activity largely through interactions with cellular proteins, including the tumor suppressor p105/Rb-1, cyclin A, a regulatory subunit associated with p34cdc2, and the related protein kinase p33cdk2. Both Ser-89 and Ser-219 are the major E1A phosphorylation sites that are phosphorylated *in vitro* by p34cdc2. Phosphorylation of Ser-89 does not affect E1A-mediated repression of the simian virus 40 enhancer or trans-activation of E3 promoter significantly, but it has an effect on transformation of primary rat kidney cells.

REFERENCES

1. Gallimore, P.H., et al. 1974. Viral DNA in transformed cells II. A study of the sequences of Adenovirus and DNA in nine lines of transformed rat cells using specific fragments of the viral genome. *J. Mol. Biol.* 89: 49-72.
2. Jones, N., et al. 1979. An Adenovirus type 5 early gene function regulates expression of other early viral genes. *Proc. Natl. Acad. Sci. USA* 76: 3665-3669.
3. Berk, A.J., et al. 1979. Pre-early Adenovirus 5 gene product regulates synthesis of early viral messenger RNAs. *Cell* 17: 935-944.
4. Harlow, E., et al. 1985. Monoclonal antibodies specific for Adenovirus E1A proteins: extensive heterogeneity in the E1A products. *J. Virol.* 3: 533-546.

SOURCE

p-Adenovirus-2 E1A (C-9) is a mouse monoclonal antibody epitope corresponding to a short amino acid sequence containing Ser 219 phosphorylated Adenovirus-2 E1A 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.

Blocking peptide available for competition studies, sc-374663 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

p-Adenovirus-2 E1A (C-9) is recommended for detection of Ser 219 phosphorylated Adenovirus-2 E1A of Adenovirus-2 origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

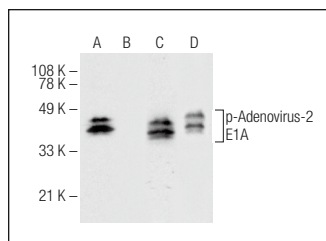
Molecular Weight of p-Adenovirus-2 E1A: 48-54 kDa.

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, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Lambda Phosphatase: sc-200312A 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.

DATA



Western blot analysis of Adenovirus-2 E1A phosphorylation in untreated (A,C) and lambda protein phosphatase (sc-200312A) treated (B,D) HEK293 whole cell lysates. Antibodies tested include p-Adenovirus-2 E1A (C-9): sc-374663 (A,B) and Adenovirus-2/5 E1A (SPM229): sc-52982 (C,D).

SELECT PRODUCT CITATIONS

1. Glenewinkel, F., et al. 2016. The adaptor protein DCAF7 mediates the interaction of the Adenovirus E1A oncoprotein with the protein kinases DYRK1A and HIPK2. *Sci. Rep.* 6: 28241.
2. Ge, Y., et al. 2017. Synergistic antitumor effects of CDK inhibitor SNS-032 and an oncolytic adenovirus co-expressing TRAIL and Smac in pancreatic cancer. *Mol. Med.* 15: 3521-3528.
3. Liang, Z., et al. 2017. A conditionally replicating adenovirus expressing IL-24 acts synergistically with temozolomide to enhance apoptosis in melanoma cells *in vitro*. *Oncol. Lett.* 13: 4185-4189.
4. Zemke, N.R., et al. 2017. The Adenovirus E1A C terminus suppresses a delayed antiviral response and modulates RAS signaling. *Cell Host Microbe* 22: 789e5-800.e5.
5. Xiao, B., et al. 2017. Combination of oncolytic adenovirus and luteolin exerts synergistic antitumor effects in colorectal cancer cells and a mouse model. *Mol. Med.* 16: 9375-9382.

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.