



Adenovirus-5 E1A (SPM230): sc-56500

BACKGROUND

The early region (E1) of the adenovirus genome, responsible for transforming activity, is localized within the leftmost 11% of the viral genome and consists of two transcriptional units, E1A and E1B. Region E1A is sufficient for partial transformation and immortalization of primary cells, whereas the E1B function is normally required for complete transformation. In addition to their essential role in transformation, E1A gene products are necessary for normal levels of transcription of the other early regions of the adenovirus genome during productive infection and are able to either activate or repress the transcription of specific cellular genes. E1A oncogene proteins form specific complexes with cellular proteins. These include a 105 kDa protein (pRb), which is the product of the retinoblastoma gene, and the 60 kDa human cyclin A protein. E1A immunoprecipitates also contain the cyclin dependent kinase Cdk.

REFERENCES

- Gallimore, P.H., Sharp, P.A. and Sambrook, J. 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.
- Jones, N. and Shenk, T. 1979. An Adenovirus type 5 early gene function regulates expression of other early viral genes. *Proc. Natl. Acad. Sci. USA* 76: 3665-3669.
- Berk, A.J., Lee, F., Harrison, T., Williams, J. and Sharp, P.A. 1979. Pre-early Adenovirus-5 gene product regulates synthesis of early viral messenger RNAs. *Cell* 17: 935-944.
- Harlow, E., Franza, B.R. and Schley, C. 1985. Monoclonal antibodies specific for Adenovirus E1A proteins: extensive heterogeneity in the E1A products. *J. Virol.* 3: 533-546.
- Whyte, P., Buchkovich, K.J., Horowitz, J.M., Friend, S.H., Raybuck, M., Weinberg, R.A. and Harlow, E. 1988. Association between an oncogene and an anti-oncogene: the Adenovirus E1A protein binds to the retinoblastoma susceptibility gene product. *Nature* 334: 124-129.
- Giordano, A., Lee, J.H., Scheppler, J.A., Herrmann, C., Harlow, E., Deuschle, U., Beach, D. and Franza, B.R., Jr. 1991. Cell cycle regulation of Histone H1 kinase activity associated with the adenoviral protein E1A. *Science* 253: 1271-1275.
- Tsai, L.-H., Harlow, E. and Meyerson, M. 1991. Isolation of the human Cdk2 gene that encodes the cyclin A- and Adenovirus E1A-associated p33 kinase. *Nature* 353: 174-177.

SOURCE

Adenovirus-5 E1A (SPM230) is a mouse monoclonal antibody raised against Adenovirus-5 E1A.

PRODUCT

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

APPLICATIONS

Adenovirus-5 E1A (SPM230) is recommended for detection of Adenovirus-5 E1A 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).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

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 or our catalog for detailed protocols and support products.