SANTA CRUZ BIOTECHNOLOGY, INC.

HPV16 E6 (C-19): sc-1583

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Human papilloma viruses (HPVs) can be classified as either high risk or low risk according to their association with cancer. HPV 16 and HPV 18 are the most common of the high risk group while HPV 6 and HPV 11 are among the low risk types. Approximately 90% of cervical cancers contain HPV DNA of the high risk types. Mutational analysis have shown that the E6 and E7 genes of the high risk HPVs are necessary and sufficient for HPV transforming function. The specific interactions of the E6 and E7 proteins with p53 and pRB, respectively, correlate with HPV high and low risk classifications. The high risk HPV E7 proteins bind to pRB with a higher affinity than do the low risk HPV proteins, and only the high risk HPV E6 proteins form detectable complexes with p53 *in vitro*.

REFERENCES

1. Reich, N.C., et al. 1983. Two distinct mechanisms regulate the levels of a cellular tumor antigen, p53. Mol. Cell Biol. 3: 2143-2150.
2. Munger, K., et al. 1989. Complex formation of human papillomavirus E7 proteins with the retinoblastoma tumor suppressor gene product. EMBO J. 8: 4099-4105.
3. Hawley-Nelson, P., et al. 1989. HPV16 E6 and E7 proteins cooperate to immortalize human foreskin keratinocytes. EMBO J. 13: 3905-3910.
4. Munger, K., et al. 1989. The E6 and E7 genes of the human papillomavirus type 16 together are necessary and sufficient for transformation of primary human keratinocytes. J. Virol. 63: 4417-4421.

SOURCE

HPV16 E6 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of E6 of HPV16 origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1583 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

HPV16 E6 (C-19) is recommended for detection of HPV16 E6 by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 HPV16 E6: 17 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Rey, O., et al. 1999. Impaired nucleotide excision repair in UV-irradiated human oral keratinocytes immortalized with type 16 human papillomavirus genome. Oncogene 18: 6997-7001.
2. Duli, V., et al. 2000. Uncoupling between phenotypic senescence and cell cycle arrest in aging p21-deficient fibroblasts. Mol. Cell. Biol. 20: 6741-6754.
3. Lee, S.J., et al. 2001. Both E6 and E7 oncoproteins of human papillomavirus 16 inhibit IL-18-induced IFN-γ production in human peripheral blood mononuclear and NK cells. J. Immunol. 167: 497-504.
4. Cho, Y.S., et al. 2001. Down modulation of IL-18 expression by human papillomavirus type 16 E6 oncogene via binding to IL-18. FEBS Lett. 501: 139-145.
5. Srivenugopal, K., et al. 2002. The DNA repair protein, O(6)-methylguanine-DNA methyltransferase is a proteolytic target for the E6 human papillomavirus oncoprotein. Oncogene 21: 5940-5945.
6. Dietze, E.C., et al. 2004. Tamoxifen and Tamoxifen ethyl bromide induce apoptosis in acutely damaged mammary epithelial cells through modulation of Akt activity. Oncogene 23: 3851-3862.
7. Liu, X., et al. 2005. The E6AP ubiquitin ligase is required for transactivation of the hTERT promoter by the human papillomavirus E6 oncoprotein. J. Biol. Chem. 280: 10807-10816.
8. Wadhwa, R., et al. 2006. Upregulation of mortalin/mtHSP 70/GRP 75 contributes to human carcinogenesis. Int. J. Cancer 118: 2973-2980.
9. Actis, P., et al. 2010. Ultrasensitive mycotoxin detection by STING sensors. Biosens. Bioelectron. 26: 333-337.

RESEARCH USE

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