

HPV18 E7 (718-15): sc-51952

BACKGROUND

Human papilloma viruses (HPVs) can be classified as either high risk or low risk according to their association with cancer. HPV16 and HPV18 are the most common of the high risk group while HPV6 and HPV11 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. zur Hausen, H. and Schneider, A. 1987. The role of papillomaviruses in human angongenital cancer. In Howley, P.M. and Salzman, N.P., eds., *The Papovaviridae, 2 Papillomaviruses*. New York: Plenum, 245-263.
3. Munger, K., et al. 1989. Complex formation of human papillomavirus E7 proteins with the retinoblastoma tumor suppressor gene product. *EMBO J.* 8: 4099-4105.
4. Hawley-Nelson, P., et al. 1989. HPV16 E6 and E7 proteins cooperate to immortalize human foreskin keratinocytes. *EMBO J.* 13: 3905-3910.
5. 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.
6. Riou, G., et al. 1990. Association between poor prognosis in early-stage invasive cervical carcinomas and non-detection of HPV DNA. *Lancet* 335: 1171-1174.
7. Werness, B.A., et al. 1990. Association of human papillomavirus types 16 and 18 E6 proteins with p53. *Science* 248: 76-79.
8. Huibregtse, J.M., et al. 1993. Cloning and expression of the cDNA for E6-AP, a protein that mediates the interaction of the human papillomavirus E6 oncoprotein with p53. *Mol. Cell. Biol.* 13: 775-784.

SOURCE

HPV18 E7 (718-15) is a mouse monoclonal antibody raised against full length E7 protein of HPV18.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

HPV18 E7 (718-15) is recommended for detection of the E7 protein of HPV type 18 of HPV by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of HPV18 E7: 15 kDa.

SELECT PRODUCT CITATIONS

1. Luevano, M., et al. 2010. High-throughput profiling of the humoral immune responses against thirteen human papillomavirus types by proteome microarrays. *Virology* 405: 31-40.
2. Hu, Z., et al. 2015. TALEN-mediated targeting of HPV oncogenes ameliorates HPV-related cervical malignancy. *J. Clin. Invest.* 125: 425-436.

RESEARCH USE

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

PROTOCOLS

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



See **HPV18 E7 (F-7): sc-365035** for HPV18 E7 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.