

# HPV16 E2 (TVG 271): sc-53327

## BACKGROUND

The human papilloma virus (HPV) family of DNA tumor viruses includes HPV16, a strain that is responsible for the largest number of cases of cervical cancers linked to the family. HPV16E1 and HPV16E2 are proteins that are involved in the regulation of viral DNA replication and are important for infected cell homeostasis. HPV16E2 specifically regulates the expression of the E6 and E7 oncoproteins by binding to four sites within the viral long control region, possibly involving interactions with nuclear hormone receptors. Integration of the HPV genome into the host DNA usually disrupts the HPV16E2 gene open reading frames, resulting in an overexpression of E6 and E7 genes, an event that may lead to the malignant transformation of cervical cancer. HPV16E2 is also able to induce apoptotic cell death via two pathways: the first through the binding of p53 and the second through the binding of the viral genome.

## REFERENCES

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- Qian, J., et al. 2006. Combined prophylactic and therapeutic cancer vaccine: enhancing CTL responses to HPV16 E2 using a chimeric VLP in HLA-A2 mice. *Int. J. Cancer* 118: 3022-3029.
- Soeda, E., et al. 2006. Repression of HPV16 early region transcription by the E2 protein. *Virology* 351: 29-41.

## SOURCE

HPV16 E2 (TVG 271) is a mouse monoclonal antibody raised against vaccinia-E2 followed by intravenous injection of maltose binding protein MBP-E2 (generated from an expression vector in which the E2 ORF was cloned in frame with malE).

## RESEARCH USE

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

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HPV16 E2 (TVG 271) is available conjugated to agarose (sc-53327 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53327 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53327 PE), fluorescein (sc-53327 FITC), Alexa Fluor<sup>®</sup> 488 (sc-53327 AF488), Alexa Fluor<sup>®</sup> 546 (sc-53327 AF546), Alexa Fluor<sup>®</sup> 594 (sc-53327 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-53327 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-53327 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-53327 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

HPV16 E2 (TVG 271) is recommended for detection of HPV16 E2 by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Molecular Weight of HPV16 E2: 43 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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## SELECT PRODUCT CITATIONS

- Wu, Y.C., et al. 2008. Modification of papillomavirus E2 proteins by the small ubiquitin-like modifier family members (SUMOs). *Virology* 378: 329-338.
- Wu, Y.C., et al. 2009. Host cell sumoylation level influences papillomavirus E2 protein stability. *Virology* 387: 176-183.
- Mole, S., et al. 2020. Human papillomavirus type 16 infection activates the host serine arginine protein kinase 1 (SRPK1)-splicing factor axis. *J. Gen. Virol.* 101: 523-532.

## 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](http://www.scbt.com) for detailed protocols and support products.