



## HSV-2 ICP10 (15206): sc-73440

### BACKGROUND

The herpes simplex virus (HSV) (also known as cold sore, night fever or fever blister) is a virus that causes a contagious disease. The HSV-1 strain generally appears in the orofacial organs. All herpes viruses are morphologically identical: they have a large double-stranded DNA genome, and the virion consists of an icosahedral nucleocapsid which is surrounded by a lipid bilayer envelope. Following primary infection, the virus establishes a latent infection in the host and may reactivate at any stage. Reactivation is frequently, but not always, associated with further disease. Infected cell protein 10 (ICP10) represents the large subunit of the HSV-2 ribonucleotide reductase (RR). ICP10 is made up of a serine/threonine protein kinase domain at the amino-terminus and an RR domain at the carboxy-terminus. ICP10 may increase Ras activity, and its transmembrane segment plays an important role in transformation-related signaling pathways.

### REFERENCES

- Costa, S., Smith, C.C., Taylor, S., Aurelian, L. and Orlandi, C. 1986. Intracellular localization and serological identification of a HSV-2 protein in cervical cancer. *Eur. J. Gynaecol. Oncol.* 7: 1-12.
- Smith, C.C., Luo, J.H., Hunter, J.C., Ordonez, J.V. and Aurelian, L. 1994. The transmembrane domain of the large subunit of HSV-2 ribonucleotide reductase (ICP10) is required for protein kinase activity and transformation-related signaling pathways that result in Ras activation. *Virology* 200: 598-612.
- Hunter, J.C., Smith, C.C., Bose, D., Kulka, M., Broderick, R. and Aurelian, L. 1995. Intracellular internalization and signaling pathways triggered by the large subunit of HSV-2 ribonucleotide reductase (ICP10). *Virology* 210: 345-360.
- Peng, T., Hunter, J.R. and Nelson, J.W. 1996. The novel protein kinase of the RR1 subunit of herpes simplex virus has autophosphorylation and transphosphorylation activity that differs in its ATP requirements for HSV-1 and HSV-2. *Virology* 216: 184-196.
- Gyotoku, T., Ono, F. and Aurelian, L. 2002. Development of HSV-specific CD4<sup>+</sup> Th1 responses and CD8<sup>+</sup> cytotoxic T lymphocytes with antiviral activity by vaccination with the HSV-2 mutant ICP10 $\delta$ PK. *Vaccine* 20: 2796-2807.
- Casanova, G., Cancela, R., Alonzo, L., Benuto, R., Magana Mdel, C., Hurley, D.R., Fishbein, E., Lara, C., Gonzalez, T., Ponce, R., Burnett, J.W. and Calton, G.J. 2002. A double-blind study of the efficacy and safety of the ICP10 $\delta$ PK vaccine against recurrent genital HSV-2 infections. *Cutis* 70: 235-239.
- Golembewski, E.K., Wales, S.O., Aurelian, L. and Yarowsky, P.J. 2007. The HSV-2 protein ICP10 $\delta$ PK prevents neuronal apoptosis and loss of function in an *in vivo* model of neurodegeneration associated with glutamate excitotoxicity. *Exp. Neurol.* 203: 381-393.
- Li, H., Dutuor, A., Fu, X. and Zhang, X. 2007. Induction of strong antitumor immunity by an HSV-2-based oncolytic virus in a murine mammary tumor model. *J. Gene Med.* 9: 161-169.
- Fu, X., Tao, L. and Zhang, X. 2007. An HSV-2-based oncolytic virus deleted in the PK domain of the ICP10 gene is a potent inducer of apoptotic death in tumor cells. *Gene Ther.* 14: 1218-1225.

### SOURCE

HSV-2 ICP10 (15206) is a mouse monoclonal antibody raised against HSV-1/2 infected cells.

### PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

HSV-2 ICP10 (15206) is recommended for detection of ICP10 of HSV-2 origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with HSV-1.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) 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.

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