

# HSV-1 ICP4 Immediate Early Protein (10F1): sc-56986

## BACKGROUND

Infected-cell polypeptide 4 (ICP4) of herpes simplex virus type 1 (HSV-1) is one of five immediate early transcriptional regulatory proteins produced promptly upon infection. ICP4 is required for the adequate transcription of early and late viral genes. Necessary for viral growth, ICP4 immediate early protein functions to amplify the rates of transcription of viral genes during viral infection by activating gene expression. ICP4 immediate early protein also initiates transcription in reconstituted transcription reactions. By either increasing or decreasing the rate of formation of transcription initiation complexes mediated by RNA polymerase II, transcription is activated through a set of general transcription factors (GTFs). ICP4 immediate early protein specifically promotes transcription PIC (preinitiation complexes) formation by increasing the binding of TFIID to the TATA box. Data suggests that upon infection, the ICP4 protein also retains a critical role in directing the endless looped conformation of the HSV-1 genome.

## REFERENCES

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2. Smith, C.A., et al. 1993. ICP4, the major transcriptional regulatory protein of herpes simplex virus type 1, forms a tripartite complex with TATA-binding protein and TFIIB. *J. Virol.* 67: 4676-4687.
3. Gu, B., et al. 1995. Repression of activator-mediated transcription by herpes simplex virus ICP4 via a mechanism involving interactions with the basal transcription factors TATA-binding protein and TFIIB. *Mol. Cell. Biol.* 15: 3618-3626.
4. Grondin, B. and DeLuca, N. 2000. Herpes simplex virus type 1 ICP4 promotes transcription preinitiation complex formation by enhancing the binding of TFIID to DNA. *J. Virol.* 74: 11504-11510.
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6. Su, Y.H., et al. 2006. Evidence that the immediate early gene product ICP4 is necessary for the genome of the herpes simplex virus type 1 ICP4 deletion mutant strain d120 to circularize in infected cells. *J. Virol.* 80: 11589-11597.
7. Lengyel, J., et al. 2006. ICP27-dependent resistance of herpes simplex virus type 1 to leptomycin B is associated with enhanced nuclear localization of ICP4 and ICP0. *Virology* 352: 368-379.

## SOURCE

HSV-1 ICP4 Immediate Early Protein (10F1) is a mouse monoclonal antibody raised against herpes virus.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> 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

HSV-1 ICP4 Immediate Early Protein (10F1) is recommended for detection of ICP4 Immediate Early Protein of HSV-1 origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

## SELECT PRODUCT CITATIONS

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2. Van Opdenbosch, N., et al. 2011. Effects of interferon on immediate-early mRNA and protein levels in sensory neuronal cells infected with herpes simplex virus type 1 or pseudorabies virus. *Vet. Microbiol.* 152: 401-406.
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7. Grady, L.M., et al. 2017. The exonuclease activity of herpes simplex virus 1 UL12 is required for production of viral DNA that can be packaged to produce infectious virus. *J. Virol.* 91: e01380-17.
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## 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) for detailed protocols and support products.