



ZNF281 (N-13): sc-103950

BACKGROUND

Zinc-finger proteins contain DNA-binding domains and have a wide variety of functions, most of which encompass some form of transcriptional activation or repression. ZNF281, also known as GC-box-binding zinc-finger protein 1, ZBP-99 or ZNP-99 (zinc-finger DNA-binding protein 99), is a zinc-finger protein that belongs to the Krüppel C₂H₂-type zinc finger protein family. It is expressed ubiquitously at low levels with predominant expression in kidney, liver, lymphocytes and placenta. ZNF281 localizes to the nucleus and contains four C₂H₂-type zinc fingers. ZNF281 plays a role in repressing the transcription of a variety of genes including Gastrin and ODC (ornithine decarboxylase). In particular, ZNF281 functions by binding to the G-rich box in the enhancer region of the gene. Upon DNA damage, ZNF281 may become phosphorylated by Atm or ATR.

REFERENCES

1. Law, D.J., Du, M., Law, G.L. and Merchant, J.L. 1999. ZBP-99 defines a conserved family of transcription factors and regulates ornithine decarboxylase gene expression. *Biochem. Biophys. Res. Commun.* 262: 113-120.
2. Lisowsky, T., Polosa, P.L., Sagliano, A., Roberti, M., Gadaleta, M.N. and Cantatore, P. 1999. Identification of human GC-box-binding zinc-finger protein, a new Krüppel-like zinc-finger protein, by the yeast one-hybrid screening with a GC-rich target sequence. *FEBS Lett.* 453: 369-374.
3. Suzuki, M., Ueno, N. and Kuroiwa, A. 2003. Hox proteins functionally cooperate with the GC box-binding protein system through distinct domains. *J. Biol. Chem.* 278: 30148-30156.
4. Zhang, X., Diab, I.H. and Zehner, Z.E. 2003. ZBP-89 represses Vimentin gene transcription by interacting with the transcriptional activator, Sp1. *Nucleic Acids Res.* 31: 2900-2914.
5. Gratiyas, S., Schüler, A., Hitpass, L.K., Stephan, H., Rieder, H., Schneider, S., Horsthemke, B. and Lohmann, D.R. 2005. Genomic gains on chromosome 1q in retinoblastoma: consequences on gene expression and association with clinical manifestation. *Int. J. Cancer.* 116: 555-563.
6. Veerla, S. and Höglund, M. 2006. Analysis of promoter regions of co-expressed genes identified by microarray analysis. *BMC Bioinformatics* 7: 384-384.
7. Corson, T.W. and Gallie, B.L. 2007. One hit, two hits, three hits, more? Genomic changes in the development of retinoblastoma. *Genes Chromosomes Cancer.* 46: 617-634.
8. Koch, H.B., Zhang, R., Verdoodt, B., Bailey, A., Zhang, C.D., Menssen, A. and Hermeking, H. 2007. Large-scale identification of c-Myc-associated proteins using a combined TAP/MudPIT approach. *Cell Cycle* 6: 205-217.

CHROMOSOMAL LOCATION

Genetic locus: ZNF281 (human) mapping to 1q32.1; Zfp281 (mouse) mapping to 1 E4.

STORAGE

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

SOURCE

ZNF281 (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ZNF281 of human 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-103950 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ZNF281 (N-13) is recommended for detection of ZNF281 of mouse, rat and human origin 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).

Suitable for use as control antibody for ZNF281 siRNA (h): sc-88283, ZNF281 siRNA (m): sc-106714, ZNF281 shRNA Plasmid (h): sc-88283-SH, ZNF281 shRNA Plasmid (m): sc-106714-SH, ZNF281 shRNA (h) Lentiviral Particles: sc-88283-V and ZNF281 shRNA (m) Lentiviral Particles: sc-106714-V.

Molecular Weight of ZNF281: 99 kDa.

Positive Controls: ZNF281 (m): 293T Lysate: sc-124785 or ZNF281 (h): 293T Lysate: sc-111393.

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.

RESEARCH USE

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

PROTOCOLS

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