

ZKSCAN4 (V-16): sc-102176

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. ZKSCAN4 (Zinc finger protein with KRAB and SCAN domains 4), also known as ZNF307, is a 545 amino acid protein belonging to the Krüppel C2H2-type zinc-finger protein family. Localized to the nucleus, ZKSCAN4 is expressed in placenta, lung, kidney, brain and heart, as well as in embryonic (17-week) liver, brain, heart, small intestine and skeletal muscle. ZKSCAN4 functions as a transcription repressor and has been shown to suppress both p53 and p21 transcription. Overexpression of ZKSCAN4 results in the upregulation of p300 and MDM2 genes, suggesting that ZKSCAN4 suppresses the p53-p21 pathway by activating p300 and MDM2 expression, which then leads to the degradation of p53. Phosphorylation on Ser165 of human ZKSCAN4 occurs upon DNA damage, most likely by Atm or ATR.

REFERENCES

1. Bellefroid, E.J., Poncelet, D.A., Lecocq, P.J., Revelant, O. and Martial, J.A. 1991. The evolutionarily conserved Krüppel-associated box domain defines a subfamily of eukaryotic multifingered proteins. *Proc. Natl. Acad. Sci. USA* 88: 3608-3612.
2. Constantinou-Deltas, C.D., Gilbert, J., Bartlett, R.J., Herbstreith, M., Roses, A.D. and Lee, J.E. 1992. The identification and characterization of KRAB-domain-containing zinc finger proteins. *Genomics* 12: 581-589.
3. Margolin, J.F., Friedman, J.R., Meyer, W.K., Vissing, H., Thiesen, H.J. and Rauscher, F.J. 1994. Kruppel-associated boxes are potent transcriptional repression domains. *Proc. Natl. Acad. Sci. USA* 91: 4509-4513.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611643. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Edelstein, L.C. and Collins, T. 2005. The SCAN domain family of zinc finger transcription factors. *Gene* 359: 1-17.
6. Li, J., Wang, Y., Fan, X., Mo, X., Wang, Z., Li, Y., Yin, Z., Deng, Y., Luo, N., Zhu, C., Liu, M., Ma, Q., Ocorr, K., Yuan, W. and Wu, X. 2007. ZNF307, a novel zinc finger gene suppresses p53 and p21 pathway. *Biochem. Biophys. Res. Commun.* 363: 895-900.
7. Matsuoka, S., Ballif, B.A., Smogorzewska, A., McDonald, E.R., Hurov, K.E., Luo, J., Bakalarski, C.E., Zhao, Z., Solimini, N., Lerenthal, Y., Shiloh, Y., Gygi, S.P. and Elledge, S.J. 2007. ATM and ATR substrate analysis reveals extensive protein networks responsive to DNA damage. *Science* 316: 1160-1166.

CHROMOSOMAL LOCATION

Genetic locus: ZKSCAN4 (human) mapping to 6p22.1.

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.

SOURCE

ZKSCAN4 (V-16) is a purified rabbit polyclonal antibody raised against ZKSCAN4 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

ZKSCAN4 (V-16) is recommended for detection of ZKSCAN4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

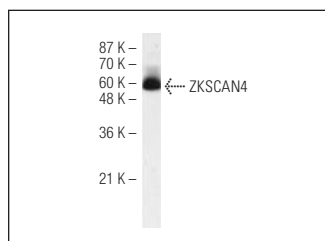
Suitable for use as control antibody for ZKSCAN4 siRNA (h): sc-95430, ZKSCAN4 shRNA Plasmid (h): sc-95430-SH and ZKSCAN4 shRNA (h) Lentiviral Particles: sc-95430-V.

Molecular Weight of ZKSCAN4: 62 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



ZKSCAN4 (V-16): sc-102176. Western blot analysis of ZKSCAN4 expression in transfected 293T whole cell lysate.

PROTOCOLS

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