

ZNF264 (G-16): sc-132528

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. The majority of zinc-finger proteins contain a Krüppel-type DNA binding domain and a KRAB domain, which is thought to interact with KAP1, thereby recruiting histone modifying proteins. ZNF264 is a 627 amino acid protein belonging to the Krüppel C₂H₂-type zinc finger protein family. ZNF264 has one KRAB domain and thirteen C₂H₂ zinc fingers. Due to the presence of these domains, ZNF264 is thought to be involved in transcriptional regulation. ZNF264 is phosphorylated by either ATM or ATR upon DNA damage, possibly indicating a role in DNA repair. Localized to the nucleus, ZNF264 is highly expressed in testis, ovary, kidney, thymus, placenta, brain, lung and prostate and is present at lower levels in liver, heart, spleen, pancreas, small intestine and skeletal muscle.

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. Pengue, G., Calabrò, V., Bartoli, P.C., Pagliuca, A. and Lania, L. 1994. Repression of transcriptional activity at a distance by the evolutionarily conserved KRAB domain present in a subfamily of zinc-finger proteins. *Nucleic Acids Res.* 22: 2908-2914.
3. Margolin, J.F., Friedman, J.R., Meyer, W.K., Vissing, H., Thiesen, H.J. and Rauscher, F.J. 1994. Krüppel-associated boxes are potent transcriptional repression domains. *Proc. Natl. Acad. Sci. USA* 91: 4509-4513.
4. Ishikawa, K., Nagase, T., Nakajima, D., Seki, N., Ohira, M., Miyajima, N., Tanaka, A., Kotani, H., Nomura, N. and Ohara, O. 1997. Prediction of the coding sequences of unidentified human genes. VIII. 78 new cDNA clones from brain which code for large proteins *in vitro*. *DNA Res.* 4: 307-313.
5. Kim, J., Bergmann, A., Wehri, E., Lu, X. and Stubbs, L. 2001. Imprinting and evolution of two Krüppel-type zinc-finger genes, ZIM3 and ZNF264, located in the PEG3/USP29 imprinted domain. *Genomics* 77: 91-98.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604668. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Shannon, M., Hamilton, A.T., Gordon, L., Branscomb, E. and Stubbs, L. 2003. Differential expansion of zinc-finger transcription factor loci in homologous human and mouse gene clusters. *Genome Res.* 13: 1097-1110.
8. Oh, J.H., Yang, J.O., Hahn, Y., Kim, M.R., Byun, S.S., Jeon, Y.J., Kim, J.M., Song, K.S., Noh, S.M., Kim, S., Yoo, H.S., Kim, Y.S. and Kim, N.S. 2005. Transcriptome analysis of human gastric cancer. *Mamm. Genome.* 16: 942-954.
9. 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: ZNF264 (human) mapping to 19q13.43.

SOURCE

ZNF264 (G-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ZNF264 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-132528 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ZNF264 (G-16) is recommended for detection of ZNF264 of 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); non cross-reactive with other ZNF family members.

Suitable for use as control antibody for ZNF264 siRNA (h): sc-97224, ZNF264 shRNA Plasmid (h): sc-97224-SH and ZNF264 shRNA (h) Lentiviral Particles: sc-97224-V.

Molecular Weight of ZNF264: 71 kDa.

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.

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 or our catalog for detailed protocols and support products.