

ZNF644 (K-16): sc-324705

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. ZNF644 (zinc finger protein 644), also known as Zep-2, is a 1,327 amino acid protein that may be involved in transcriptional regulation. A member of the Krüppel C₂H₂-type zinc-finger protein family, ZNF644 contains seven C₂H₂-type zinc fingers. Localizing to the nucleus, ZNF644 is expressed in liver, placenta, retina and retinal pigment epithelium. The gene encoding ZNF644, which may be involved in eye development, maps to human chromosome 1p22.2. Defects to the ZNF644 gene may be the cause of myopia type 21 (MYP21), a disorder characterized by refractive error of the eye. ZNF644 exists as three isoforms due to splicing events.

REFERENCES

- Thiesen, H.J. 1990. Multiple genes encoding zinc finger domains are expressed in human T cells. *New Biol.* 2: 363-374.
- Rousseau-Merck, M.F., Hillion, J., Jonveaux, P., Couillin, P., Seité, P., Thiesen, H.J. and Berger, R. 1993. Chromosomal localization of 9 KOX zinc finger genes: physical linkages suggest clustering of KOX genes on chromosomes 12, 16, and 19. *Hum. Genet.* 92: 583-587.
- Rosenfeld, R. and Margalit, H. 1993. Zinc fingers: conserved properties that can distinguish between spurious and actual DNA-binding motifs. *J. Biomol. Struct. Dyn.* 11: 557-570.
- Han, Z.G., Zhang, Q.H., Ye, M., Kan, L.X., Gu, B.W., He, K.L., Shi, S.L., Zhou, J., Fu, G., Mao, M., Chen, S.J., Yu, L. and Chen, Z. 1999. Molecular cloning of six novel Krüppel-like zinc finger genes from hematopoietic cells and identification of a novel transregulatory domain KRNb. *J. Biol. Chem.* 274: 35741-35748.
- Liu, J. and Stormo, G.D. 2008. Context-dependent DNA recognition code for C₂H₂ zinc-finger transcription factors. *Bioinformatics* 24: 1850-1857.
- Zabaneh, D. and Balding, D.J. 2010. A genome-wide association study of the metabolic syndrome in Indian Asian men. *PLoS ONE* 5: e11961.
- Shi, Y., Li, Y., Zhang, D., Zhang, H., Li, Y., Lu, F., Liu, X., He, F., Gong, B., Cai, L., Li, R., Liao, S., Ma, S., Lin, H., Cheng, J., Zheng, H., Shan, Y., Chen, B., Hu, J., Jin, X., Zhao, P., Chen, Y., Zhang, Y., Lin, Y., Li, X., Fan, Y., Yang, H., Wang, J. and Yang, Z. 2011. Exome sequencing identifies ZNF644 mutations in high myopia. *PLoS Genet.* 7: e1002084.

CHROMOSOMAL LOCATION

Genetic locus: Zfp644 (mouse) mapping to 5 E5.

SOURCE

ZNF644 (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ZNF644 of mouse 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-324705 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ZNF644 (K-16) is recommended for detection of ZNF644 of mouse and rat 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 zinc finger proteins.

Suitable for use as control antibody for ZNF644 siRNA (m): sc-155771, ZNF644 shRNA Plasmid (m): sc-155771-SH and ZNF644 shRNA (m) Lentiviral Particles: sc-155771-V.

Molecular Weight of ZNF644 isoforms 1/2: 150/139 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.