SANTA CRUZ BIOTECHNOLOGY, INC.

ZEB1 (C-20): sc-10570

BACKGROUND

ZEB1 (also designated Zfhep, for zinc finger homeodomain enhancer-binding protein, δEF1, AREB6, BZP and NIL-2A) is a non-receptor transcription factor analogous to the *Drosophila* ZFH-1 protein. ZEB1 contains two separate zinc-finger domains (ZD1 and ZD2), which are essential for DNA binding and repression, and a homeodomain (HD), which is not. ZEB1 also contains three repression domains, two of which flank ZD1, and a third located between HD and ZD2. ZEB1 represses transcription by site competition and enhancer silencing mechanisms, as well as by interacting with corepressors through its repression domains. Interaction of ZEB1 with the TSHβ gene T3-response element may play a role in the modification of gene-specific regulation by thyroid hormones. In the embryo, ZEB1 is primarily expressed in the mesoderm, but changes in the level of expression during tissue maturation suggest a role for ZEB1 in the early histogenesis of mesodermal tissues. In addition to its role as an embryonic gene regulator, ZEB1 is also involved in regulating the development of certain skeletal structures.

REFERENCES

1. Funahashi, J., et al. 1993. δ-crystallin enhancer binding protein δEF1 is a zinc-finger homeodomain protein implicated in postgastrulation embryogenesis. Development 119: 433-446.
2. Franklin, A., et al. 1994. BZP, a novel serum-responsive zinc-finger protein that inhibits gene transcription. Mol. Cell. Biol. 14: 6773-88.
3. Sekido, R., et al. 1997. Two mechanisms in the action of repressor δEF1: binding site competition with an activator and active repression. Genes Cells 2: 771-783.
4. Darling, D.S., et al. 1998. A zinc-finger homeodomain transcription factor binds specific thyroid hormone response elements. Mol. Cell. Endocrinol. 139: 25-35.
5. Takagi, T., et al. 1998. δEF1, a zinc-finger and homeodomain transcription factor, is required for skeleton patterning in multiple lineages. Development 125: 21-31.
6. Postigo, A.A., et al. 2000. Differential expression and function of members of the ZFH-1 family of zinc-finger/homeodomain repressors. Proc. Natl. Acad. Sci. USA 97: 6391-6396.
7. Cabanillas, A.M., et al. 2001. T3-activation of the rat growth hormone gene is inhibited by a zinc-finger/homeodomain protein. Mol. Cell. Endocrinol. 181: 131-137.

CHROMOSOMAL LOCATION

Genetic locus: ZEB1 (human) mapping to 10p11.22.

SOURCE

ZEB1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of ZEB1 of human origin.

STORAGE

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

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-10570 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-10570 X, 200 µg/0.1 ml.

APPLICATIONS

ZEB1 (C-20) is recommended for detection of ZEB1 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).

Suitable for use as control antibody for ZEB1 siRNA (h): sc-38643, ZEB1 shRNA Plasmid (h): sc-38643-SH and ZEB1 shRNA (h) Lentiviral Particles: sc-38643-V.

ZEB1 (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular weight of predicted ZEB1: 124 kDa.

SELECT PRODUCT CITATIONS

1. Guaita, S., et al. 2002. Snail induction of epithelial to mesenchymal transition in tumor cells is accompanied by MUC1 repression and ZEB1 expression. J. Biol. Chem. 277: 39209-39216.
2. Postigo, A.A., et al. 2003. Opposing functions of ZEB proteins in the regulation of the TGFβ/BMP signaling pathway. EMBO J. 22: 2443-2452.
3. Postigo, A.A., et al. 2003. Regulation of Smad signaling through a differential recruitment of co-activators and corepressors by ZEB proteins. EMBO J. 22: 2453-2462.
4. Tao, H., et al. 2006. Allele-specific KRT1 expression is a complex trait. PLoS Genetics. 2: e93.

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.