

SPZ1 (N-14): sc-107299

BACKGROUND

SPZ1 (spermatogenic leucine zipper 1), also known as NYD-TSP1, is a 430 amino acid testis specific protein that localizes to the nucleus and cytoplasm. Containing one basic helix-loop-helix (bHLH) domain, SPZ1 is phosphorylated by ERK 1 and ERK 2. SPZ1 is suggested to mediate mitogen-activated protein kinase cell proliferation, transformation and tumorigenesis. SPZ1 is a transcription factor that binds to the DNA sequence 5'-CANNTG-3'(E box) and the G-box motif and may play an important role in the regulation of cell proliferation and differentiation during spermatogenesis. Expressed at high levels in several tumor cell lines, SPZ1 acts as a proto-oncogene, participating in the MAPK signal pathway, and may be a potential therapeutic target in the treatment of Ras-induced tumors.

REFERENCES

- Hsu, S.H., Shyu, H.W., Hsieh-Li, H.M. and Li, H. 2001. Spz1, a novel bHLH-Zip protein, is specifically expressed in testis. *Mech. Dev.* 100: 177-187.
- Sha, J.H., Zhou, Z.M., Li, J.M., Lin, M., Zhu, H., Zhu, H., Zhou, Y.D., Wang, L.L., Wang, Y.Q. and Zhou, K.Y. 2003. Expression of a novel bHLH-Zip gene in human testis. *Asian J. Androl.* 5: 83-88.
- Hsu, S.H., Hsieh-Li, H.M. and Li, H. 2004. Dysfunctional spermatogenesis in transgenic mice overexpressing bHLH-Zip transcription factor, Spz1. *Exp. Cell Res.* 294: 185-198.
- Hrabchak, C. and Varmuza, S. 2004. Identification of the spermatogenic zip protein Spz1 as a putative protein phosphatase-1 (PP1) regulatory protein that specifically binds the PP1 γ 2 splice variant in mouse testis. *J. Biol. Chem.* 279: 37079-37086.
- Hsu, S.H., Hsieh-Li, H.M., Huang, H.Y., Huang, P.H. and Li, H. 2005. bHLH-zip transcription factor Spz1 mediates mitogen-activated protein kinase cell proliferation, transformation, and tumorigenesis. *Cancer Res.* 65: 4041-4050.
- Horowitz, E., Zhang, Z., Jones, B.H., Moss, S.B., Ho, C., Wood, J.R., Wang, X., Sammel, M.D. and Strauss, J.F. 2005. Patterns of expression of sperm flagellar genes: early expression of genes encoding axonemal proteins during the spermatogenic cycle and shared features of promoters of genes encoding central apparatus proteins. *Mol. Hum. Reprod.* 11: 307-317.

CHROMOSOMAL LOCATION

Genetic locus: SPZ1 (human) mapping to 5q14.1.

SOURCE

SPZ1 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of SPZ1 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.

RESEARCH USE

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

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-107299 P, (100 μ g 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-107299 X, 200 μ g/0.1 ml.

APPLICATIONS

SPZ1 (N-14) is recommended for detection of SPZ1 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 SPZ1 siRNA (h): sc-91878, SPZ1 shRNA Plasmid (h): sc-91878-SH and SPZ1 shRNA (h) Lentiviral Particles: sc-91878-V.

SPZ1 (N-14) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of SPZ1: 44 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.

PROTOCOLS

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