SANTA CRUZ BIOTECHNOLOGY, INC.

THNSL2 (B-4): sc-390395

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Threonine is one of nine essential amino acids that cannot be synthesized by humans and must be supplied in the diet. THNSL2 (threonine synthase-like 2), also known as TSH2, is a 484 amino acid protein belonging to the threonine synthase family. Utilizing pyridoxal phosphate as a cofactor, THNSL2 may function as a catabolic phospholyase on γ and β phosphorylated substrates. THNSL2 may also degrade O-phospho-threonine to α-ketobutyrate, ammonia and phosphate. Existing as four alternatively spliced isoforms, THNSL2 is encoded by a gene mapping to human chromosome 2p11.2. As the second largest human chromosome, chromosome 2 makes up approximately 8% of the human genome and contains 237 million bases encoding over 1,400 genes. A number of genetic diseases are linked to genes on chromosome 2. Harlequin icthyosis, a rare skin deformity, is associated with mutations in the ABCA12 gene. The lipid metabolic disorder sitosterolemia is associated with ABCG5 and ABCG8 gene defects. An extremely rare recessive genetic disorder, Alström syndrome, is related to mutations in the ALMS1 gene.

REFERENCES

1. IJdo, J.W., et al. 1991. Origin of human chromosome 2: an ancestral telomere-telomere fusion. Proc. Natl. Acad. Sci. USA 88: 9051-9055.
2. Avarello, R., et al. 1992. Evidence for an ancestral alphoid domain on the long arm of human chromosome 2. Hum. Genet. 89: 247-249.
3. Donini, S., et al. 2006. A threonine synthase homolog from a mammalian genome. Biochem. Biophys. Res. Commun. 350: 922-928.

CHROMOSOMAL LOCATION

Genetic locus: THNSL2 (human) mapping to 2p11.2; Thnsl2 (mouse) mapping to 6 C1.

SOURCE

THNSL2 (B-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 275-309 within an internal region of THNSL2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

THNSL2 (B-4) is available conjugated to agarose (sc-390395 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390395 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390395 PE), fluorescein (sc-390395 FITC), Alexa Fluor® 488 (sc-390395 AF488), Alexa Fluor® 546 (sc-390395 AF546), Alexa Fluor® 594 (sc-390395 AF594) or Alexa Fluor® 647 (sc-390395 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390395 AF680) or Alexa Fluor® 790 (sc-390395 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390395 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

THNSL2 (B-4) is recommended for detection of THNSL2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 THNSL2 siRNA (h): sc-94994, THNSL2 siRNA (m): sc-154256, THNSL2 shRNA Plasmid (h): sc-94994-SH, THNSL2 shRNA Plasmid (m): sc-154256-SH, THNSL2 shRNA (h) Lentiviral Particles: sc-94994-V and THNSL2 shRNA (m) Lentiviral Particles: sc-154256-V.

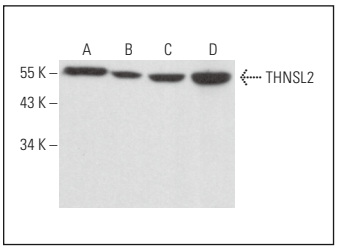
Molecular Weight of THNSL2 isoforms 1/2/3/4: 54/45/43/47 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, NTERA-2 cl.D1 whole cell lysate: sc-364181 or NIH/3T3 whole cell lysate: sc-2210.

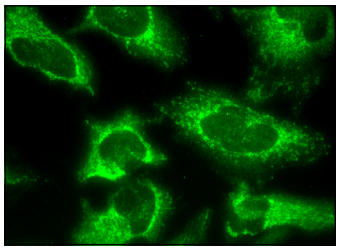
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



THNSL2 (B-4): sc-390395. Western blot analysis of THNSL2 expression in Jurkat (**A**), NTERA-2 cl.D1 (**B**) and NIH/3T3 (**C**) whole cell lysates and rat liver tissue extract (**D**).



THNSL2 (B-4): sc-390395. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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 for detailed protocols and support products.