SANTA CRUZ BIOTECHNOLOGY, INC.

TSPAN2 (Y-13): sc-241724

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

TSPAN2 (Tetraspanin-2) is a 221 amino acid member of the tetraspanin (TM4SF) family. Tetraspanins are a group of hydrophobic membrane proteins that interact with a wide variety of proteins including intracellular signaling molecules, integrins and membrane receptors. Members of the tetraspanin family are characterized by the presence of four hydrophobic domains and play a role in cell development, activation, growth and motility. It is believed TSPAN2 plays a role in signalling in oligodendrocytes in the early stages of their terminal differentiation into myelin-forming glia and may also function in stabilizing the mature sheath. TSPAN2 is encoded by a gene located on Chromosome 1 which is the largest human chromosome spanning about 260 million base pairs and making up 8% of the human genome. There are about 3,000 genes on chromosome 1, and considering the great number of genes there are also a large number of diseases associated with chromosome 1. Notably, the rare aging disease Hutchinson-Gilford progeria is associated with the LMNA gene which encodes lamin A. When defective, the LMNA gene product can build up in the nucleus and cause characteristic nuclear blebs. The mechanism of rapidly enhanced aging is unclear and is a topic of continuing exploration.

REFERENCES

1. Todd, S.C., et al. 1998. Sequences and expression of six new members of the tetraspanin/TM4SF family. Biochim. Biophys. Acta 1399: 101-104.
2. Chen, L., et al. 2008. Clinicopathological significance of overexpression of TSPAN1, Ki67 and CD34 in gastric carcinoma. Tumori 94: 531-538.
3. Scholz, C.J., et al. 2009. Tspan-1 is a tetraspanin preferentially expressed by mucinous and endometrioid subtypes of human ovarian carcinomas. Cancer Lett. 275: 198-203.
4. Scholz, C.J., et al. 2009. Glycosylation of tetraspanin Tspan-1 at four distinct sites promotes its transition through the endoplasmic reticulum. Protein Pept. Lett. 16: 1244-1248.
5. Chen, L., et al. 2009. TSPAN1 protein expression: a significant prognostic indicator for patients with colorectal adenocarcinoma. World J. Gastroenterol. 15: 2270-2276.
6. Chen, L., et al. 2010. Clinicopathological significance of expression of Tspan-1, Jab1 and p27 in human hepatocellular carcinoma. J. Korean Med. Sci. 25: 1438-1442.
7. Chen, L., et al. 2010. Knockdown of TSPAN1 by RNA silencing and antisense technique inhibits proliferation and infiltration of human skin squamous carcinoma cells. Tumori 96: 289-295.
8. Chen, L., et al. 2010. Suppression of TSPAN1 by RNA interference inhibits proliferation and invasion of colon cancer cells *in vitro*. Tumori 96: 744-750.
9. Bennett, G., et al. 2011. A functional and transcriptomic analysis of NET1 bioactivity in gastric cancer. BMC Cancer 11: 50.

STORAGE

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

CHROMOSOMAL LOCATION

Genetic locus: TSPAN2 (human) mapping to 1p13.2.

SOURCE

TSPAN2 (Y-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of TSPAN2 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-241724 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TSPAN2 (Y-13) is recommended for detection of TSPAN2 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 TSPAN family members.

TSPAN2 (Y-13) is also recommended for detection of TSPAN2 in additional species, including canine and porcine.

Suitable for use as control antibody for TSPAN2 siRNA (h): sc-88080, TSPAN2 shRNA Plasmid (h): sc-88080-SH and TSPAN2 shRNA (h) Lentiviral Particles: sc-88080-V.

Molecular Weight of TSPAN2: 24 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.

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.