

SPACA7 (T-20): sc-84021

BACKGROUND

Comprising nearly 4% of human DNA, chromosome 13 contains around 114 million base pairs and 400 genes. Key tumor suppressor genes on chromosome 13 include the breast cancer susceptibility gene, BRCA2, and the RB1 (retinoblastoma) gene. RB1 encodes a crucial tumor suppressor protein which, when defective, leads to malignant growth in the retina and has been implicated in a variety of other cancers. The gene SLITRK1, which is associated with Tourette syndrome, is on chromosome 13. As with most chromosomes, polysomy of part or all of chromosome 13 is deleterious to development and decreases the odds of survival. Trisomy 13, also known as Patau syndrome, is quite deadly and the few who survive past one year suffer from permanent neurologic defects, difficulty eating and vulnerability to serious respiratory infections. The C13orf28 gene product has been provisionally designated C13orf28 pending further characterization.

REFERENCES

- Dunham, A., Matthews, L.H., Burton, J., Ashurst, J.L., Howe, K.L., Ashcroft, K.J., Beare, D.M., Burford, D.C., Hunt, S.E., Griffiths-Jones, S., Jones, M.C., Keenan, S.J. and Oliver, K., et al. 2004. The DNA sequence and analysis of human chromosome 13. *Nature* 428: 522-528.
- Deng, H., Le, W.D., Xie, W.J. and Jankovic, J. 2006. Examination of the SLITRK1 gene in Caucasian patients with Tourette syndrome. *Acta Neurol. Scand.* 114: 400-402.
- Giacinti, C. and Giordano, A. 2006. RB and cell cycle progression. *Oncogene* 25: 5220-5227.
- Grados, M.A. and Walkup, J.T. 2006. A new gene for Tourette's syndrome: a window into causal mechanisms? *Trends Genet.* 22: 291-293.
- Bugge, M., Collins, A., Hertz, J.M., Eiberg, H., Lundsteen, C., Brandt, C.A., Bak, M., Hansen, C., Delozier, C.D., Lespinasse, J., Tranebjaerg, L., Hahnemann, J.M., Rasmussen, K., Bruun-Petersen, G., Duprez, L., Tommerup, N. and Petersen, M.B. 2007. Non-disjunction of chromosome 13. *Hum. Mol. Genet.* 16: 2004-2010.
- Hsu, H.F. and Hou, J.W. 2007. Variable expressivity in Patau syndrome is not all related to trisomy 13 mosaicism. *Am. J. Med. Genet. A* 143: 1739-1748.
- Hall, H.E., Chan, E.R., Collins, A., Judis, L., Shirley, S., Surti, U., Hoffner, L., Cockwell, A.E., Jacobs, P.A. and Hassold, T.J. 2007. The origin of trisomy 13. *Am. J. Med. Genet. A* 143: 2242-2248.
- Hassler, M., Singh, S., Yue, W.W., Luczynski, M., Lakbir, R., Sanchez-Sanchez, F., Bader, T., Pearl, L.H. and Mittnacht, S. 2007. Crystal structure of the retinoblastoma protein N domain provides insight into tumor suppression, ligand interaction and holoprotein architecture. *Mol. Cell* 28: 371-385.
- Thorslund, T. and West, S.C. 2007. BRCA2: a universal recombinase regulator. *Oncogene* 26: 7720-7730.

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: SPACA7 (human) mapping to 13q34.

SOURCE

SPACA7 (T-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of SPACA7 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84021 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SPACA7 (T-20) is recommended for detection of SPACA7 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 SPACA7 siRNA (h): sc-105143, SPACA7 shRNA Plasmid (h): sc-105143-SH and SPACA7 shRNA (h) Lentiviral Particles: sc-105143-V.

Molecular Weight (predicted) of SPACA7: 21 kDa.

Molecular Weight (observed) of SPACA7: 34 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.