

VRTN (Y-16): sc-245246

BACKGROUND

Chromosome 14 contains about 700 genes and 106 million base pairs and makes up about 3.5% of human cellular DNA. Chromosome 14 encodes the presenilin 1 (PSEN1) gene, which is one of the three key genes associated with the development of Alzheimer's disease. The SERPINA1 gene is located on chromosome 14 and when defective leads to the genetic disorder α 1-antitrypsin deficiency. This disorder is characterized by severe lung complications and liver dysfunction. Notably, the immunoglobulin heavy chain locus is found on chromosome 14 and has been identified as a fusion with the chromosome 19 encoded protein BCL3 in the (14;19) translocations found in a variety of B cell malignancies. The C14orf115 gene product has been provisionally designated C14orf115 pending further characterization.

REFERENCES

- Heilig, R., Eckenberg, R., Petit, J., Fonknechten, N., Da Silva, C., Cattolico, L., Levy, M., Barbe, V., de Berardinis, V., Ureta-Vidal, A., Pelletier, E., Vico, V., Anthouard, V., Rowen, L., Madan, A., Qin, S., Sun, H., Du, H., Pepin, K., Artiguenave, F., Robert, C., Cruaud, C., et al. 2003. The DNA sequence and analysis of human chromosome 14. *Nature* 421: 601-607.
- Godbolt, A.K., Beck, J.A., Collinge, J., Garrard, P., Warren, J.D., Fox, N.C. and Rossor, M.N. 2004. A presenilin 1 R278I mutation presenting with language impairment. *Neurology* 63: 1702-1704.
- Stolk, J., Seersholm, N. and Kalsheker, N. 2006. α 1-antitrypsin deficiency: current perspective on research, diagnosis, and management. *Int. J. Chron. Obstruct. Pulmon. Dis.* 1: 151-160.
- Vetrivel, K.S., Zhang, Y.W., Xu, H. and Thinakaran, G. 2006. Pathological and physiological functions of presenilins. *Mol. Neurodegener.* 1: 4.
- Albani, D., Roiter, I., Artuso, V., Batelli, S., Prato, F., Pesaresi, M., Galimberti, D., Scarpini, E., Bruni, A., Franceschi, M., Piras, M.R., Confalonni, A. and Forloni, G. 2007. Presenilin-1 mutation E318G and familial Alzheimer's disease in the Italian population. *Neurobiol. Aging* 28: 1682-1688.
- Cruz, P.E., Mueller, C. and Flotte, T.R. 2007. The promise of gene therapy for the treatment of α 1 antitrypsin deficiency. *Pharmacogenomics* 8: 1191-1198.
- Filley, C.M., Rollins, Y.D., Anderson, C.A., Arciniegas, D.B., Howard, K.L., Murrell, J.R., Boyer, P.J., Kleinschmidt-DeMasters, B.K. and Ghetti, B. 2007. The genetics of very early onset Alzheimer disease. *Cogn. Behav. Neurol.* 20: 149-156.
- Martín-Subero, J.I., Ibbotson, R., Klapper, W., Michaux, L., Callet-Bauchu, E., Berger, F., Calasanz, M.J., De Wolf-Peters, C., Dyer, M.J., Felman, P., Gardiner, A., Gascoyne, R.D., Gesk, S., Harder, L., Horsman, D.E., Kneba, M., Küppers, R., Majid, A., et al. 2007. A comprehensive genetic and histopathologic analysis identifies two subgroups of B-cell malignancies carrying a t(14;19)(q32;q13) or variant BCL3-translocation. *Leukemia* 21: 1532-1544.
- Micci, F., Panagopoulos, I., Tjonnfjord, G.E., Kolstad, A., Delabie, J., Beiske, K. and Heim, S. 2007. Molecular cytogenetic characterization of t(14;19)(q32;p13), a new recurrent translocation in B cell malignancies. *Virchows Arch.* 450: 559-565.

CHROMOSOMAL LOCATION

Genetic locus: VRTN (human) mapping to 14q24.3; Vrtn (mouse) mapping to 12 D1.

SOURCE

VRTN (Y-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of VRTN of human origin.

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-245246 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

VRTN (Y-16) is recommended for detection of VRTN of mouse, rat and 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).

VRTN (Y-16) is also recommended for detection of VRTN in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for VRTN siRNA (h): sc-92329, VRTN siRNA (m): sc-140481, VRTN shRNA Plasmid (h): sc-92329-SH, VRTN shRNA Plasmid (m): sc-140481-SH, VRTN shRNA (h) Lentiviral Particles: sc-92329-V and VRTN shRNA (m) Lentiviral Particles: sc-140481-V.

Molecular Weight of VRTN: 78 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.

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 or our catalog for detailed protocols and support products.