SANTA CRUZ BIOTECHNOLOGY, INC.

C14orf174 (Q-24): sc-130987

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

C14orf174 (chromosome 14 open reading frame 174), also known as FAM15A, is a 674 amino acid protein that contains one SAM (sterile α motif) domain. Existing as two alternatively spliced isoforms, C14orf174 is encoded by a gene that maps to human chromosome 14q24.3. 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 presinilin 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 α1-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 Bcl-3 in the (14;19) translocations found in a variety of B cell malignancies.

REFERENCES

1. Heilig, R., et al. 2003. The DNA sequence and analysis of human chromosome 14. Nature 421: 601-607.
2. Godbolt, A.K., et al. 2004. A Presenilin 1 R278I mutation presenting with language impairment. Neurology 63: 1702-1704.
3. Stolk, J., et al. 2006. α1-antitrypsin deficiency: current perspective on research, diagnosis and management. Int. J. Chron. Obstruct. Pulmon. Dis. 1: 151-160.
4. Vetrivel, K.S., et al. 2006. Pathological and physiological functions of presenilins. Mol. Neurodegener. 1: 4.
5. Albani, D., et al. 2007. Presenilin 1 mutation E318G and familial Alzheimer's disease in the Italian population. Neurobiol. Aging 28: 1682-1688.
6. Cruz, P.E., et al. 2007. The promise of gene therapy for the treatment of α-1 antitrypsin deficiency. Pharmacogenomics 8: 1191-1198.
7. Filley, C.M., et al. 2007. The genetics of very early onset Alzheimer disease. Cogn. Behav. Neurol. 20: 149-156.
8. Martín-Subero, J.I., 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 Bcl-3 -translocation. Leukemia 21: 1532-1544.
9. Micci, F., et al. 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: SAMD15 (human) mapping to 14q24.3.

SOURCE

C14orf174 (Q-24) is an affinity purified rabbit polyclonal antibody raised against synthetic C14orf174 peptide of human origin.

PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

C14orf174 (Q-24) is recommended for detection of SAMD15 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for C14orf174 siRNA (h): sc-92310, C14orf174 shRNA Plasmid (h): sc-92310-SH and C14orf174 shRNA (h) Lentiviral Particles: sc-92310-V.

Molecular Weight (predicted) of C14orf174 isoforms: 77/66 kDa.

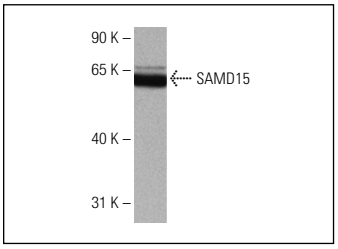
Molecular Weight (observed) of C14orf174: 63 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



SAMD15 (Q-24): sc-130987. Western blot analysis of SAMD15 expression in Hep G2 whole cell lysate.

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.