



BC-1514 (C-15): sc-83204

BACKGROUND

As the smallest human chromosome, chromosome 21 spans just 47 million nucleotides, representing 1.5% of total genetic material in the human genome. Containing between 200 to 400 genes, chromosome 21 has been linked to genetic disorders such as Alzheimer's disease, Amyotrophic lateral sclerosis, Down syndrome and homocystinuria. Translocations of genetic material between other chromosomes and genes residing on chromosome 21 have been associated with several types of cancer, such as acute lymphoblastic leukemia and acute myeloid leukemia. The gene encoding BC-1514 (B lymphocyte activation-related protein BC-1514) contains 1,514 nucleotides and encodes a 130 amino acid protein that was first identified by its expression in human tonsil tissue. The chromosomal location of BC-1514 is very close to a genetic region that is implicated in Alzheimer's disease, namely 21q21. With highest expression in bone marrow, it is suggested that BC-1514 may play a role in B cell signal transduction.

REFERENCES

1. Robakis, N.K., Wisniewski, H.M., Jenkins, E.C., Devine-Gage, E.A., Houck, G.E., Yao, X.L., Ramakrishna, N., Wolfe, G., Silverman, W.P. and Brown, W.T. 1987. Chromosome 21q21 sublocalisation of gene encoding β -Amyloid peptide in cerebral vessels and neuritic (senile) plaques of people with Alzheimer disease and Down syndrome. *Lancet*. 1: 384-385.
2. Glenner, G.G. 1988. The proteins and genes of Alzheimer's disease. *Biomed. Pharmacother.* 42: 579-584.
3. Lu, X.W., Yin, J.Y. and Cui, L.X. 2001. Cloning of human B lymphocyte activation-related novel gene. *Zhongguo Yi Xue Ke Xue Yuan Xue Bao*. 23: 27-31.
4. Robakis, N.K. 2006. The discovery and mapping to chromosome 21 of the Alzheimer's Amyloid gene: history revised. *J. Alzheimers Dis.* 10: 453-455.
5. Rozovski, U., Jonish-Grossman, A., Bar-Shira, A., Ochshorn, Y., Goldstein, M. and Yaron, Y. 2007. Genome-wide expression analysis of cultured trophoblast with trisomy 21 karyotype. *Hum. Reprod.* 22: 2538-2545.
6. Haynes, M.R. and Wu, G.E. 2007. Gene discovery at the human T cell receptor α/δ locus. *Immunogenetics* 59: 109-121.
7. Eliopoulos, A.G. 2008. Cell signaling. "Make and brake" in signaling. *Science* 321: 648-649.

CHROMOSOMAL LOCATION

Genetic locus: C21orf118 (human) mapping to 21q21.3.

SOURCE

BC-1514 (C-15) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of BC-1514 of human origin.

PRODUCT

Each vial contains 100 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-83204 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

BC-1514 (C-15) is recommended for detection of BC-1514 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Molecular Weight of BC-1514: 14 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

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.