SANTA CRUZ BIOTECHNOLOGY, INC.

DDHD1 (S-19): sc-246410

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Phospholipases catalyze the release of fatty acids from phospholipids. The phospholipase DDHD1 (DDHD domain-containing protein 1), also designated Phosphatidic acid-preferring phospholipase A1 homolog (PA-PLA1) is a 900 amino acid protein that contains one DDHD domain. It is a cytoplasmic protein that is highly expressed in testis, but also shows expression in brain, spleen and lung. DDHD1 is thought to hydrolyze phosphatidic acid and exists as three isoforms, which mostly likely function to alter its substrate specificity. The gene encoding DDHD1 maps to chromosome 14, which contains about 700 genes 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. 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.

REFERENCES

1. Aoki, J., et al. 2002. Structure and function of phosphatidylserine-specific phospholipase A1. Biochim. Biophys. Acta 1582: 26-32.
2. Heilig, R., et al. 2003. The DNA sequence and analysis of human chromosome 14. Nature 421: 601-607.
3. Godbolt, A.K., et al. 2004. A presenilin 1 R278I mutation presenting with language impairment. Neurology 63: 1702-1704.
4. Stolk, J., et al. 2006. α1-antitrypsin deficiency: current perspective on research, diagnosis, and management. Int. J. Chron. Obstruct. Pulmon. Dis. 1: 151-160.
5. 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 BCL3-translocation. Leukemia 21: 1532-1544.
6. Albani, D., et al. 2007. Presenilin-1 mutation E318G and familial Alzheimer's disease in the Italian population. Neurobiol. Aging 28: 1682-1688.
7. 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.
8. Yamashita, A., et al. 2010. Generation of lysophosphatidylinositol by DDHD domain containing 1 (DDHD1): possible involvement of phospholipase D/phosphatidic acid in the activation of DDHD1. Biochim. Biophys. Acta 1801: 711-720.
9. Tully, S.E. and Cravatt, B.F. 2010. Activity-based probes that target functional subclasses of phospholipases in proteomes. J. Am. Chem. Soc. 132: 3264-3265.

CHROMOSOMAL LOCATION

Genetic locus: DDHD1 (human) mapping to 14q22.1; Ddhd1 (mouse) mapping to 14 C1.

SOURCE

DDHD1 (S-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DDHD1 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-246410 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DDHD1 (S-19) is recommended for detection of DDHD1 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); non cross-reactive with DDHD2.

DDHD1 (S-19) is also recommended for detection of DDHD1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for DDHD1 siRNA (h): sc-92410, DDHD1 siRNA (m): sc-142916, DDHD1 shRNA Plasmid (h): sc-92410-SH, DDHD1 shRNA Plasmid (m): sc-142916-SH, DDHD1 shRNA (h) Lentiviral Particles: sc-92410-V and DDHD1 shRNA (m) Lentiviral Particles: sc-142916-V.

Molecular Weight of DDHD1: 100/97/52 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.