SANTA CRUZ BIOTECHNOLOGY, INC.

DSCAM (N-16): sc-79437

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The Power to Question

BACKGROUND

DSCAM (Down syndrome cell adhesion molecule) is a cell adhesion molecule belonging to the immunoglobulin superfamily. It is predominantly expressed in brain and contains six Fibronectin type-III domains and ten Ig-like C2-type domains. In mice, DSCAM is responsible for regulating isoneuronal self-avoidance, the tendency for sister arbors to avoid crossing each other and to spread out proportionately over an area. Isoneuronal self-avoidance is important for proper terminal branching (arborization). In some cell types, DSCAM also mediates heteroneuronal self-avoidance, which is important for the regular spacing of cell bodies and the prevention of hyperfasciculation. In humans, two DSCAM isoforms exist due to alternative splicing. The long isoform (also known as CHD2-42) is a single pass type I membrane protein, while the short isoform (CHD2-52), which lacks the C-terminal transmembrane containing region (amino acids 1572-2012), is secreted.

REFERENCES

1. Yamakawa, K., et al. 1998. DSCAM: a novel member of the immunoglobulin superfamily maps in a Down syndrome region and is involved in the development of the nervous system. Hum. Mol. Genet. 7: 227-237.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602523. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Yamashima, T., et al. 2006. Implication of "Down syndrome cell adhesion molecule" in the hippocampal neurogenesis of ischemic monkeys. Hippocampus 16: 924-935.
4. Kurtz, J. and Armitage, S.A. 2006. Alternative adaptive immunity in invertebrates. Trends Immunol. 27: 493-496.
5. Zipursky, S.L., et al. 2006. Got diversity? Wiring the fly brain with DSCAM. Trends Biochem. Sci. 31: 581-588.
6. Head, E., et al. 2007. Possible compensatory events in adult Down syndrome brain prior to the development of Alzheimer disease neuropathology: targets for nonpharmacological intervention. J. Alzheimers Dis. 11: 61-76.

CHROMOSOMAL LOCATION

Genetic locus: DSCAM (human) mapping to 21q22.2; Dscam (mouse) mapping to 16 C.

SOURCE

DSCAM (N-16) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of DSCAM 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-79437 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DSCAM (N-16) is recommended for detection of DSCAM of mouse, rat and 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

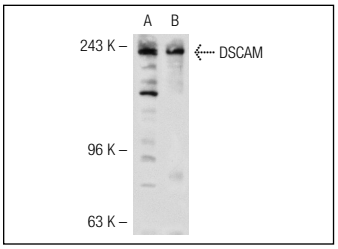
DSCAM (N-16) is also recommended for detection of DSCAM in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for DSCAM siRNA (h): sc-77182, DSCAM siRNA (m): sc-77183, DSCAM shRNA Plasmid (h): sc-77182-SH, DSCAM shRNA Plasmid (m): sc-77183-SH, DSCAM shRNA (h) Lentiviral Particles: sc-77182-V and DSCAM shRNA (m) Lentiviral Particles: sc-77183-V.

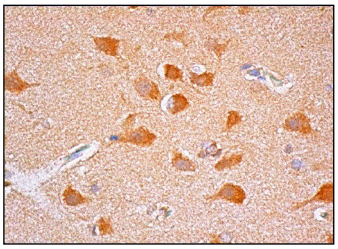
Molecular Weight of DSCAM: 200 kDa.

Positive Controls: T98G cell lysate: sc-2294 or mouse cerebellum extract: sc-2403.

DATA



DSCAM (N-16): sc-79437. Western blot analysis of DSCAM expression in T98G whole cell lysate (**A**) and mouse cerebellum tissue extract (**B**).



DSCAM (N-16): sc-79437. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of neuronal cells.

SELECT PRODUCT CITATIONS

1. Jia, Y.L., et al. 2011. Expression and significance of DSCAM in the cerebral cortex of APP transgenic mice. Neurosci. Lett. 491: 153-157.

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.