

DSS1 (N-15): sc-5733

BACKGROUND

The development of the heterogeneous limb disorder known as split hand/split foot malformation (SHFM), which is characterized by missing digits and fusions of the remaining digits, is the result of aberrations in the DSS1 gene. DSS1, for deleted in split hand/split foot malformation, is implicated in the formation of limb bud, craniofacial primordial, and skin, where it contributes to the differentiation of new cellular structures and membrane trafficking during the early developmental stages. DSS1 is a highly acidic protein consisting of 70 amino acids, and it shares no significant sequence similarities to any members of other known protein families yet shares 100% sequence identity with its murine homolog. As an integral protein in the cell cycle completion, DSS1 may also be an important indicator for the predisposition of early onset breast cancer, as it associates with the tumor suppressor protein BRCA2 in MCF7 cells.

REFERENCES

- Crackower, M.A., et al. 1996. Characterization of the split hand/split foot malformation locus SHFM1 at 7q21.3-q22.1 and analysis of a candidate gene for its expression during limb development. *Hum. Mol. Genet.* 5: 571-579.
- Ignatius, J., et al. 1996. Split hand/split foot malformation, deafness, and mental retardation with a complex cytogenetic rearrangement involving 7q21.3. *J. Med. Genet.* 33: 507-510.
- Crackower, M.A., et al. 1997. Fluorescent *in situ* mapping of the murine deleted in split hand/split foot 1 (DSS1) gene to chromosome 6. *Mamm. Genome* 8: 704.
- Ozen, R.S., et al. 1999. Fine mapping of the split-hand/split-foot locus (SHFM3) at 10q24: evidence for anticipation and segregation distortion. *Am. J. Hum. Genet.* 64: 1646-1654.
- Jantti, J., et al. 1999. SEM1, a homologue of the split hand/split foot malformation candidate gene DSS1, regulates exocytosis and pseudohyphal differentiation in yeast. *Proc. Natl. Acad. Sci. USA* 96: 909-914.
- Marston, N.J., et al. 1999. Interaction between the product of the breast cancer susceptibility gene BRCA2 and DSS1, a protein functionally conserved from yeast to mammals. *Mol. Cell. Biol.* 19: 4633-4642.

CHROMOSOMAL LOCATION

Genetic locus: DSS1 (human) mapping to 7q22.1.

SOURCE

DSS1 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of DSS1 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-5733 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DSS1 (N-15) is recommended for detection of DSS1 of 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).

DSS1 (N-15) is also recommended for detection of DSS1 in additional species, including equine, canine, porcine and avian.

Suitable for use as control antibody for DSS1 siRNA (h): sc-40502, DSS1 shRNA Plasmid (h): sc-40502-SH and DSS1 shRNA (h) Lentiviral Particles: sc-40502-V.

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.

SELECT PRODUCT CITATIONS

- Tan, Y., et al. 2008. A novel recurrent chromosomal inversion implicates the homeobox gene *Dlx-5* in T-cell lymphomas from Lck-Akt2 transgenic mice. *Cancer Res.* 68: 1296-1302.

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.