SANTA CRUZ BIOTECHNOLOGY, INC.

DSP (C-20): sc-18325

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

DSPP (dentin sialophosphoprotein) is a precursor protein that is cleaved into two mature forms, DSP (dentin sialoprotein) and DPP (dentin phosphoprotein). DSPP is a member of the small integrin-binding ligand N-linked glycoprotein (SIBLING) family of proteins and is secreted by odontoblasts. DSP is heavily glycosylated but DPP is not. DSP and DPP are principle proteins of the dentin extracellular matrix of the tooth, with DSP having a role in dentinogenesis and DPP binding calcium, facilitating initial mineralization of dentin matrix collagen and regulating the size and shape of the crystals. Mutations in the DSPP gene are associated with DFNA39/DGI1 (deafness, autosomal dominant, 39, with dentinogenesis imperfecta 1), a disease characterized by progressive heavy-frequency hearing loss, DGI2 (dentinogenesis imperfect 2) and DGI3 (dentinogenesis imperfecta 3), diseases characterized by amber-brown teeth that fracture and shed enamel with wear.

REFERENCES

1. Wang, S.K., et al. 2011. Enamel malformations associated with a defined dentin sialophosphoprotein mutation in two families. Eur. J. Oral Sci. 119: 158-167.
2. Suzuki, S., et al. 2012. Dentin sialophosphoprotein and dentin matrix protein-1: Two highly phosphorylated proteins in mineralized tissues. Arch. Oral Biol. 57: 1165-1175.
3. Li, D., et al. 2012. Mutation identification of the DSPP in a Chinese family with DGI-II and an up-to-date bioinformatic analysis. Genomics 99: 220-226.

CHROMOSOMAL LOCATION

Genetic locus: DSPP (human) mapping to 4q22.1.

SOURCE

DSP (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DSPP 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-18325 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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 for detailed protocols and support products.

APPLICATIONS

DSP (C-20) is recommended for detection of DSP and precursor DSPP 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)], 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).

Suitable for use as control antibody for DSPP siRNA (h): sc-40500, DSPP shRNA Plasmid (h): sc-40500-SH and DSPP shRNA (h) Lentiviral Particles: sc-40500-V.

Molecular Weight of human DSPP: 131 kDa.

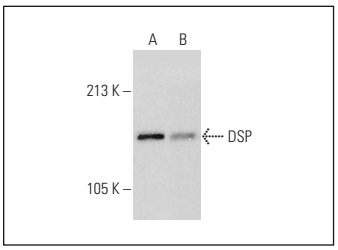
Molecular Weight of human DSP: 47 kDa.

Molecular Weight of mouse/rat DSPP: 94/70 kDa.

Molecular Weight of mouse/rat DSP: 45 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or PC-3 cell lysate: sc-2220.

DATA



DSP (C-20): sc-18325. Western blot analysis of DSP expression in PC-3 (**A**) and Jurkat (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kumabe, S., et al. 2006. Human dental pulp cell culture and cell transplantation with an alginate scaffold. Okajimas Folia Anat. Jpn. 82: 147-155.
2. Wei, X., et al. 2007. Expression of mineralization markers in dental pulp cells. J. Endod. 33: 703-708.
3. Cordeiro, M.M., et al. 2008. Dental pulp tissue engineering with stem cells from exfoliated deciduous teeth. J. Endod. 34: 962-969.
4. Ozeki, N., et al. 2014. Differentiation of human skeletal muscle stem cells into odontoblasts is dependent on induction of α1 integrin expression. J. Biol. Chem. 289: 14380-14391.