SANTA CRUZ BIOTECHNOLOGY, INC.

SPARC (D-2): sc-398419



BACKGROUND

SPARC (for secreted protein acidic and rich in cysteine) is a phosphorylated, acidic, glycine-rich glycoprotein that is secreted by endothelial cells and is present in large amounts in the parietal endoderm of mouse embryos and in human placenta. It is identical to osteonectin, a protein important to bone calcification that is highly conserved between species. SPARC, which can be selectively expressed by the endothelial cells *in vitro*. It regulates endothelial barrier function through F-Actin-dependent changes in cell shape, coincident with the appearance of intercellular gaps, which provide a paracellular pathway for extravasation of macromolecules.

CHROMOSOMAL LOCATION

Genetic locus: SPARC (human) mapping to 5q33.1.

SOURCE

SPARC (D-2) is a mouse monoclonal antibody raised against amino acids 1-90 of SPARC of human origin.

PRODUCT

Each vial contains 200 μg lgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SPARC (D-2) is available conjugated to agarose (sc-398419 AC), 500 μ g/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398419 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398419 PE), fluorescein (sc-398419 FITC), Alexa Fluor[®] 488 (sc-398419 AF488), Alexa Fluor[®] 546 (sc-398419 AF546), Alexa Fluor[®] 594 (sc-398419 AF594) or Alexa Fluor[®] 647 (sc-398419 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-398419 AF680) or Alexa Fluor[®] 790 (sc-398419 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

SPARC (D-2) is recommended for detection of SPARC of human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for SPARC siRNA (h): sc-37166, SPARC shRNA Plasmid (h): sc-37166-SH and SPARC shRNA (h) Lentiviral Particles: sc-37166-V.

Molecular Weight of SPARC: 43 kDa.

Positive Controls: A-375 cell lysate: sc-3811.

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.

DATA



SPARC (D-2): sc-398419. Western blot analysis of SPARC expression in A-375 whole cell lysate.



SPARC (D-2): sc-398419. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization (A). Immunopercvidaes staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells and cytoplasmic and membrane staining of endothelial cells (**B**).

SELECT PRODUCT CITATIONS

- 1. Yan, L., et al. 2017. Insulin-like growth factor-1 promotes the proliferation and odontoblastic differentiation of human dental pulp cells under high glucose conditions. Int. J. Mol. Med. 40: 1253-1260.
- Galván, J.A., et al. 2020. Immunohistochemical analysis of the expression of cancer-associated fibroblast markers in esophageal cancer with and without neoadjuvant therapy. Virchows Arch. 476: 725-734.
- Yao, L., et al. 2021. Bi-directional epithelial-mesenchymal crosstalk provides self-sustaining pro-fibrotic signals in pulmonary fibrosis. J. Biol. Chem. 297: 101096.
- Qiu, D., et al. 2022. Tetrahydrocurcumin chemosensitizes breast cancer to albumin-bound paclitaxel by enhancing SPARC expression through demethylation. J. Oncol. 2022: 7961537.
- Dang, X., et al. 2023. AREG upregulates secreted protein acidic and rich in cysteine expression in human granulosa cells. Mol. Cell. Endocrinol. 561: 111826.
- Donnelly, H., et al. 2023. Surface-modified piezoelectric copolymer poly(vinylidene fluoride-trifluoroethylene) supporting physiological extracellular matrixes to enhance mesenchymal stem cell adhesion for nanoscale mechanical stimulation. ACS Appl. Mater. Interfaces 15: 50652-62.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.