SANTA CRUZ BIOTECHNOLOGY, INC.

SPARC (AON-5031): sc-73472

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 endothelium in response to certain types of injury, induces rounding in adherent 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.

REFERENCES

1. Termine, J.D., et al. 1981. Osteonectin, a bone-specific protein linking mineral to collagen. Cell 26: 99-105.
2. Findlay, D.M., et al. 1988. Isolation of the osteonectin gene: evidence that a variable region of the osteonectin molecule is encoded within one exon. Biochemistry 27: 1483-1489.

CHROMOSOMAL LOCATION

Genetic locus: SPARC (human) mapping to 5q33.1; Sparc (mouse) mapping to 11 B1.3.

SOURCE

SPARC (AON-5031) is a mouse monoclonal antibody raised against SPARC of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and 5% glycerol.

APPLICATIONS

SPARC (AON-5031) is recommended for detection of bone SPARC and platelet SPARC 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

SPARC (AON-5031) is also recommended for detection of bone SPARC and platelet SPARC in additional species, including bovine.

Suitable for use as control antibody for SPARC siRNA (h): sc-37166, SPARC siRNA (m): sc-41034, SPARC shRNA Plasmid (h): sc-37166-SH, SPARC shRNA Plasmid (m): sc-41034-SH, SPARC shRNA (h) Lentiviral Particles: sc-37166-V and SPARC shRNA (m) Lentiviral Particles: sc-41034-V.

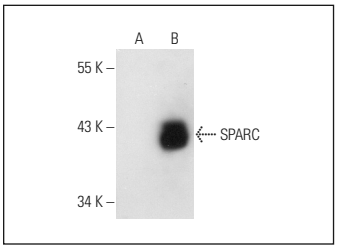
Molecular Weight of SPARC: 43 kDa.

Positive Controls: SPARC (h): 293T Lysate: sc-111589, A-375 cell lysate: sc-3811 or U-2 OS cell lysate: sc-2295.

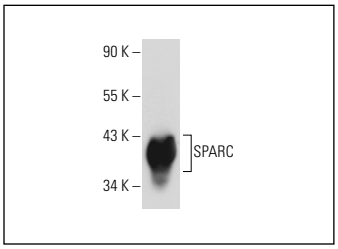
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



SPARC (AON-5031): sc-73472. Western blot analysis of SPARC expression in non-transfected: sc-117752 (**A**) and human SPARC transfected: sc-111589 (**B**) 293T whole cell lysates.



SPARC (AON-5031): sc-73472. Western blot analysis of SPARC expression in A-375 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Inoue, M., et al. 2010. Identification of SPARC as a candidate target antigen for immunotherapy of various cancers. Int. J. Cancer 127: 1393-1403.
2. Rijkers, M., et al. 2017. Monitoring storage induced changes in the platelet proteome employing label free quantitative mass spectrometry. Sci. Rep. 7: 11045.
3. Rijkers, M., et al. 2018. A subset of anti-HLA antibodies induces FcγRIIa-dependent platelet activation. Haematologica 103: 1741-1752.
4. Jo, S., et al. 2020. DKK1 induced by $1,25D_3$ is required for the mineralization of osteoblasts. Cells 9: 236.
5. Rodrigues-Amorim, D., et al. 2021. Changes in the brain extracellular matrix composition in schizophrenia: a pathophysiological dysregulation and a potential therapeutic target. Cell. Mol. Neurobiol. 42: 1921-1932.
6. Poomsawat, S., et al. 2021. Epithelial and fibroblast SPARC expression patterns in oral leukoplakia and oral squamous cell carcinoma. Oral Surg. Oral Med. Oral Pathol. Oral Radiol. 134: e44-e50.
7. Ekici, O., et al. 2022. Kefir alters craniomandibular bone development in rats fed excess dose of high fructose corn syrup. J. Bone Miner. Metab. 40: 56-65.
8. Alcaraz, L.B., et al. 2022. SPARC in cancer-associated fibroblasts is an independent poor prognostic factor in non-metastatic triple-negative breast cancer and exhibits pro-tumor activity. Int. J. Cancer. E-published.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

CONJUGATES

See **SPARC (D-2): sc-398419** for SPARC antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.