Human SPARC Antibody

Monoclonal Mouse IgG_1 Clone # 122511

Catalog Number: MAB941

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human SPARC/Osteonectin in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant mouse SPARC/Osteonectin is observed.
Source	Monoclonal Mouse IgG_1 Clone # 122511
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human SPARC Ala18-Ile303 Accession # P09486
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

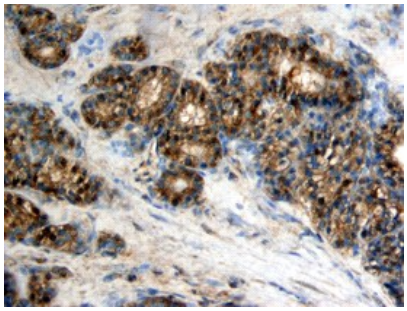
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Immunohistochemistry	8-25 µg/mL	See Below
Intracellular Staining by Flow Cytometry	0.25 µg/10^6 cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

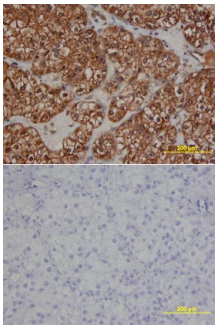
DATA

Immunohistochemistry



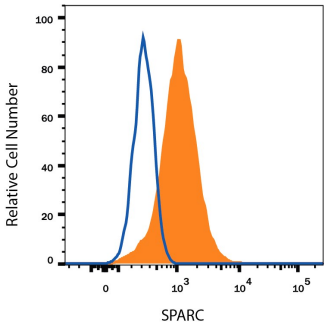
SPARC/Osteonectin in Human Ovary Cancer Tissue. SPARC/Osteonectin was detected in immersion fixed paraffin-embedded sections of human ovarian clear cell carcinoma tissue using Human SPARC/Osteonectin Monoclonal Antibody (Catalog # MAB941) at 25 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Immunohistochemistry



SPARC/Osteonectin in Human Ovary Cancer. SPARC/Osteonectin was detected in immersion fixed paraffin-embedded sections of human ovarian clear cell carcinoma tissue using Human SPARC/Osteonectin Monoclonal Antibody (Catalog # MAB941) at 25 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). Lower panel shows a lack of labeling when primary antibodies are omitted and tissue is stained only with secondary antibody followed by incubation with detection reagents. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Intracellular Staining by Flow Cytometry



Detection of SPARC in HT1080 Human Cell Line by Flow Cytometry. HT1080 human fibrosarcoma cell line was stained with Mouse Anti-Human SPARC Monoclonal Antibody (Catalog # MAB941, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0101B). To facilitate intracellular staining, cells were fixed with Flow Cytometry Fixation Buffer (Catalog # FC004) and permeabilized with Flow Cytometry Permeabilization/Wash Buffer I (Catalog # FC005). View our protocol for Staining Intracellular Molecules.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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Human SPARC Antibody

Monoclonal Mouse IgG_1 Clone # 122511

Catalog Number: MAB941

BACKGROUND

SPARC, an acronym for “secreted protein, acidic and rich in cysteine”, is also known as osteonectin or BM-40 (1-5). It is the founding member of a family of secreted matricellular proteins with similar domain structure. The 286 amino acid (aa), 43 kDa protein contains an N-terminal acidic region that binds calcium, a follistatin domain that contains Kazal-like sequences, and a C-terminal extracellular calcium (EC) binding domain with two EF-hand motifs (1-5). Crystal structure modeling shows that residues implicated in cell binding, inhibition of cell spreading, and disassembly of focal adhesions cluster on one face of SPARC, while a collagen binding epitope and an N-glycosylation site are opposite this face (6). SPARC is produced by fibroblasts, capillary endothelial cells, platelets and macrophages, especially in areas of tissue morphogenesis and remodeling (3, 7). SPARC shows context-specific effects, but generally inhibits adhesion, spreading and proliferation, and promotes collagen matrix formation (3-5). For endothelial cells, SPARC disrupts focal adhesions and binds and sequesters PDGF and VEGF (3-5). SPARC is abundantly expressed in bone, where it promotes osteoblast differentiation and inhibits adipogenesis (5, 8). SPARC is potentially cleaved by metalloproteinases, producing an angiogenic peptide that includes the copper-binding sequence KGHK (7). Paradoxically, SPARC is highly expressed in many tumor types undergoing an endothelial to mesenchymal transition; its expression, however, mainly decreases the likelihood of metastasis and confers sensitivity to chemotherapy and radiation (4, 9-11). Stabilin-1, which is expressed on alternately activated macrophages, is the first SPARC receptor to be identified. It binds the SPARC EC domain and mediates endocytosis for degradation (12). Mature human SPARC shows 92%, 92%, 97%, 99%, 96% and 85% aa identity with mouse, rat, canine, bovine, porcine and chick SPARC, respectively.

References:

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