Mouse SPARC
Alexa Fluor® 488-conjugated Antibody

Monoclonal Rat IgG_{2B} Clone # 124413

Catalog Number: IC942G

100 Tests

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse SPARC/Osteonectin in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human SPARC is observed.
Source	Monoclonal Rat IgG_{2B} Clone # 124413
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse SPARC/Osteonectin Ala18-Ile302 Accession # P07214
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

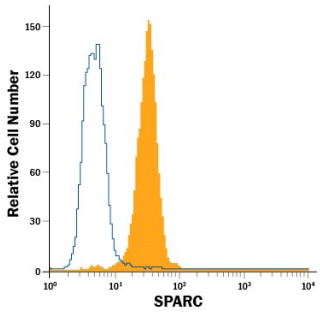
APPLICATIONS

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
Intracellular Staining by Flow Cytometry	5 µL/10^6 cells	See Below

DATA

Intracellular Staining by Flow Cytometry



Detection of SPARC in Balb/3T3 Mouse Cell Line by Flow Cytometry. Balb/3T3 mouse embryonic fibroblast cell line was stained with Rat Anti-Mouse SPARC Alexa Fluor® 488-conjugated Monoclonal Antibody (Catalog # IC942G, filled histogram) or isotype control antibody (Catalog # IC013G, open histogram). 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

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** ● 12 months from date of receipt, 2 to 8 °C as supplied.

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BACKGROUND

SPARC, (Secreted Protein, Acidic and Rich in Cysteine) also known as Osteonectin or BM-40. It is the founding member of a family of secreted matricellular proteins with similar domain structure. The 295 amino acid (aa), 43-45 kDa protein contains a 46 aa N-terminal acidic region that binds calcium, a 23 aa follistatin-like domain containing Kazal-like sequences, and a 148 aa C-terminal extracellular calcium (EC) binding domain with two EF-hand motifs (1-5). Crystal structure 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). It is also secreted by astrocytes where it participates in synapse formation (8). SPARC shows context-specific effects, but generally inhibits adhesion, membrane spreading and cell proliferation, while promoting 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, 9). 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, yet expression mainly decreases the likelihood of metastasis and confers sensitivity to chemotherapy and radiation (4, 10, 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 mouse SPARC shows 97%, 92%, 92%, 92% and 83% aa identity with rat, human, dog, cow and chick SPARC, respectively.

References:

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