Active Recombinant Mouse Sparc, His-tagged

Cat. No. Sparc-4030M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Mouse Sparc (Ala18-Ile302) fused with 10His tag at Cterminal, was expressed in Mouse NSO Cells.
Species	Mouse
Source	Mammalian Cells
ProteinLength	18-302 a.a.
Description	SPARC, an acronym for “secreted protein, acidic and rich in cysteine”, is also known as osteonectin or BM40. It is the founding member of a family of secreted matricellular proteins with similar domain structure. The 302 amino acid (aa), 43 kDa protein contains a 17 aa signal sequence, an Nterminal acidic region that binds calcium, a follistatin domain containing Kazallike sequences, and a Cterminal extracellular calcium (EC) binding domain with two EFhand motifs. 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 Nglycosylation site are opposite this face. SPARC is produced by fibroblasts, capillary endothelial cells, platelets and macrophages, especially in areas of tissue morphogenesis and remodeling. SPARC shows contextspecific effects, but generally inhibits adhesion, spreading and proliferation, and promotes collagen matrix formation. For endothelial cells, SPARC disrupts focal adhesions and binds and sequesters PDGF and VEGF. SPARC is abundantly expressed in bone, where it promotes osteoblast differentiation and inhibits adipogenesis. SPARC is

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	potentially cleaved by metalloproteinases, producing an angiogenic peptide that includes the copperbinding sequence KGHK. Paradoxically, SPARC is highly expressed in many tumor types, yet expression mainly decreases the likelihood of metastasis and confers sensitivity to chemotherapy and radiation. Stabilin1, 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. Mature mouse SPARC shows 97%, 92%, 92%, 92% and 83% aa identity with rat, human, dog, cow and chick SPARC, respectively.
Predicted N Terminal	Ala18
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS.
Bio-activity	Measured by its ability to inhibit the cell growth of Mv1Lu mink lung epithelial cells. The ED50 for this effect is typically 0.6 - 2.4 μg/mL. Optimal dilutions should be determined by each laboratory for each application.
Molecular Mass	34 kDa
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Storage	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. 3 months, -20 to -70 °C under sterile conditions after reconstitution.
Reconstitution	Reconstitute at 100 μg/mL in sterile PBS.

GENE INFORMATION

Gene Name	Sparc secreted acidic cysteine rich glycoprotein [Mus musculus(house mouse)]

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Official Symbol	Sparc
Synonyms	Sparc; secreted acidic cysteine rich glycoprotein; BM-40; AA517111; SPARC; ON; osteonectin; basement-membrane protein 40; secreted protein acidic and rich in cysteine
Gene ID	20692
mRNA Refseq	NM_009242
Protein Refseq	NP_033268
UniProt ID	P07214
Chromosome Location	11 B1; 11 33.04 cM
Pathway	Hemostasis; Platelet activation, signaling and aggregation; Platelet degranulation; Senescence and Autophagy
Function	calcium ion binding; extracellular matrix binding; metal ion binding

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