

SPARC

Human, Recombinant (rHuSPARC)

Expressed in *E. coli*

Cat. No. CRP08132

Lot. No. (See product label)

PRODUCT INFORMATION

Description: SPARC, an acronym for “secreted protein, acidic and rich in cysteine”, is also known as osteonectin or BM-40. It is the founding member of a family of secreted matricellular proteins with similar domain structure. The 303 amino acid, 43 kDa protein contains a 17 aa signal sequence, an N-terminal acidic region that binds calcium, a follistatin domain containing Kazal-like sequences, and a C-terminal extracellular calcium (EC) binding domain with two EF-hand motifs. SPARC is produced by fibroblasts, capillary endothelial cells, platelets and macrophages, especially in areas of tissue morphogenesis and remodeling. SPARC shows context-specific 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.

Amino-Acid Sequence: 259aa. non-glycosylated

M. W. : approximately 34.0 kDa

Recombinant: Expressed in *E. coli*

Purity: >95% by SDS-PAGE and HPLC analyses.

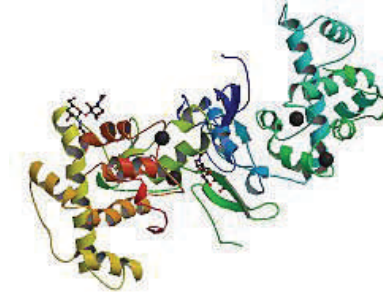
Formulation: Lyophilized from a 0.2µm filtered concentrated (1mg/ml) solution in 1×PBS, pH 7.4.

Endotoxin: Less than 1EU/µg of rHuSPARC as determined by LAL method.

Reconstitution: We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/ml. Stock solutions should be apportioned into working aliquots and stored at <-20°C. Further dilutions should be made in appropriate buffered solutions.

Storage: This lyophilized preparation is stable for several weeks at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.

FOR RESEARCH USE ONLY



PDB rendering based on 1bmo.
Available structures: [1bmo](#), [1nub](#), [1sra](#)

GENE INFORMATION

Gene Name: [SPARC](#)

Synonyms: ON; BM-40; Osteonectin; Basement-membrane protein 40; Osteonectin (secreted protein, acidic, cysteine-rich); SPARC precursor; Secreted protein acidic and rich in cysteine; cysteine-rich protein; secreted protein, acidic, cysteine-rich (osteonectin). secreted protein, acidic, cysteine-rich (osteonectin); SPRC_HUMAN; SPARC [Precursor].

mRNA Refseq: [NM_003118](#)

Protein Refseq: [NP_003109](#)

MIM: [182120](#)

UniProt ID: P09486

Gene ID: [6678](#)

Chromosome Location: 5q31.3-q32

Pathway: Hemostasis

Function: calcium ion binding; collagen binding; copper ion binding.

REFERENCES

1. Yan Q, Sage EH (1999). SPARC, a matricellular glycoprotein with important biological functions. *J. Histochem. Cytochem.* 47 (12): 1495–506.
2. Altura BM (1975). Pharmacological effects of alpha-methyldopa, alpha-methylnorepinephrine, and octopamine on rat arteriolar, arterial, and terminal vascular smooth.". *Circ. Res.* 36 (6 Suppl 1): 233–40.
3. Raines EW, Lane TF, Iruela-Arispe ML, et al. (1992). The extracellular glycoprotein SPARC interacts with platelet-derived growth factor (PDGF)-AB and -BB and inhibits the binding of PDGF to its receptors. *Proc. Natl. Acad. Sci. U.S.A.* 89 (4): 1281–5.

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