

Recombinant Human SPARC, His-tagged

Cat. No. SPARC-210H **Lot. No.** (See product label)

SPECIFICATION

Product Overview Recombinant Human Osteonectin fused with 6X His tag produced in *E. Coli* is a single, non-glycosylated, polypeptide chain containing 295 amino acids and having a molecular mass of 34 kDa. The BM40 is purified by proprietary chromatographic techniques.

Species Human

Source E.coli

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 MSYYHHHHHPQQEALPDETEVVEETVAEVTEVSVGANPVQVEVGEFDDGAEETE

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EEVVAENPCQNHCKHKGKVCELDENNTPMCVCQDPTSCPAPIGEFEKVCSDNKT
 FDSSCHFFATKCTLEGTKKGHLHLDYIGPCKYIPPCLDSELTEFPLMRDWLKNVL
 VTLYERDEDNLLTKQKLRVKKIHENEKRLEAGDHPVELLARDFEKNYNMYIFPVHW
 QFGQLDQHPIDGYLSHTELAPLRAPLIPMEHCTTRFFETCDLDNDKYIALDEWAGCF
 GIKQKDIDKDLVI.

Physical Appearance Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation The SPARC (1 mg/ml) was lyophilized after extensive dialyses against 1x PBS pH-7.4.

Purity Greater than 95.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.

Solubility It is recommended to reconstitute the lyophilized SPARC in sterile 18MΩ-cm H₂O not less than 100 g/ml, which can then be further diluted to other aqueous solutions.

Stability Lyophilized Osteonectin although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution BM-40 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

GENE INFORMATION

Gene Name SPARC secreted protein, acidic, cysteine-rich (osteonectin) [Homo sapiens]

Synonyms SPARC; secreted protein, acidic, cysteine-rich (osteonectin); ON; cysteine-rich protein; osteonectin; Basement-membrane protein 40; BM-40; Secreted protein acidic and rich in cysteine; secreted protein, acidic, cysteine-rich

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Gene ID	6678
mRNA Refseq	NM_003118
Protein Refseq	NP_003109
MIM	182120
UniProt ID	P09486
Chromosome Location	5q31-q33
Pathway	Hemostasis
Function	calcium ion binding; collagen binding; copper ion binding; extracellular matrix binding

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