



## Product Datasheet

<b>Product Name</b>	Secreted Protein acidic & Rich in Cysteine Human Recombinant
<b>Cata No</b>	CB501193
<b>Source</b>	<i>Escherichia Coli.</i>
<b>Synonyms</b>	Osteonectin, ON, Basement-membrane protein 40, BM-40, SPARC, Secreted Protein acidic and Rich in Cysteine.

### 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. Osteonectin Human Recombinant 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.

### Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

### Purity

Greater than 95.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE.

### Formulation

The SPARC (1 mg/ml) was lyophilized after extensive dialyses against 20mM PBS pH-7.4.

### Reconstitution

It is recommended to reconstitute the lyophilized SPARC in sterile 18M $\Omega$ -cm H<sub>2</sub>O not less than 100  $\mu$ 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 $^{\circ}$ C. Upon reconstitution BM-40 should be stored at 4 $^{\circ}$ C between 2-7 days and for future use below -18 $^{\circ}$ C.

For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

**Please prevent freeze-thaw cycles.**

### Sequence

MSYYHHHHHPQQEALPDETEVVEETVAEVTEV  
SVGANPVQVEVGEFD  
DGAEETEEVVAENPCQNHCKHKGKVCELDENN  
TPMCVCQDPTSCP  
APIGEFEKVCSDNKNKTFDSSCHFFATKCTLEGTK  
KGHKLHLDYIGPCK  
YIPPCLDSELTEFPLMRDWLKNVLVTLYERDED

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NLLTKQKLRVKKI  
HENEKRLEAGDHPVELLARDFEKYNMYIFPVHW  
QFGQLDQHPIDGY

LSHTELAPLRAPLIPME  
ALDEWAGCFGIKQK  
DIDKDLVI

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