

## Human SPARC/Osteonectin

Synonyms: Osteonectin, ON, Basement-membrane protein 40, BM-40, SPARC, Secreted Protein acidic and Rich in Cysteine.

**PLEASE NOTE: ALWAYS CENTRIFUGE VIAL BEFORE OPENING**

Size	Order #	Lot #	Expiry Date
50 µg	2990.950.050		
200 µg	2990.950.200		
1 mg	2990.950.199		

Please enquire for bulk quantities and other vial sizes

### Description

Recombinant Human SPARC (Secreted Protein Acidic & Rich in Cysteine) / Osteonectin produced in *E. Coli* is a non-glycosylated protein with 286 amino acids and a molecular mass of 32.7kDa. It is also known as osteonectin or BM-40. SPARC/Osteonectin 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/Osteonectin is produced by fibroblasts, capillary endothelial cells, platelets and macrophages, especially in areas of tissue morphogenesis and remodeling. It shows context-specific effects, but generally inhibits adhesion, spreading and proliferation, and promotes collagen matrix formation. For endothelial cells, SPARC/Osteonectin disrupts focal adhesions and binds and sequesters PDGF and VEGF. It is abundantly expressed in bone, where it promotes osteoblast differentiation and inhibits adipogenesis.

- **Biological Activity** ≥ 333 units/mg
- **Source** *E. Coli*
- **Purity** ≥ 98 % (SDS-PAGE, HPLC)
- **Endotoxin level** ≤ 0.1ng/µg (≤ 1EU/µg)
- **Buffer** PBS (pH 7,4)\*
- **Physical state** Sterile filtered, lyophilized

### Biological Activity

The ED<sub>50</sub> of ≤ 3.0 µg/mL was determined by its ability to inhibit the cell growth of Mv1Lu mink lung epithelial cells, corresponding to a specific activity of ≥ 333 units/mg.

### Stability

Lyophilized SPARC/Osteonectin although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution it should be stored at 4°C between 2-7 days and for future use below -18°C.

**Please avoid repeated freeze-thaw cycles.**

### Amino Acid Sequence

APQQEALPDE TEVVEETVAE VTEVSVGANP VQVEVGEFDD GAEETEEEVV AENPCQNHHC KHGKVCCELDE  
 NNTPMCVCQD PTSCPAPIGE FEKVCSDNDK TFDSSCHFFA TKCTLEGTKK GHKLHLDYIG PCKYIIPPCLD  
 SELTEFPLRM RDWLKNVLVT LYERDEDNNL LTEKQKLRVK KIHENEKRLE AGDHPVELLA RDFEKNYNMY  
 IFPVHWQFGQ LDQHPIDGYL SHTELAPLRA PLIPMEHCTT RFFETCDLDN DKYIALDEWA GCFGIKQKDI  
 DKDLVI

**Usage:** For research use only. Not for use in diagnostic or therapeutic procedures. Not for human use.

\*The Buffer may vary depending on the Lot #. Please contact our technical support if you have specific requirements.

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