

## 32-13448: SPARC Human

**Application :** Functional Assay

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

### Description

Source: Escherichia Coli.

Sterile Filtered White lyophilized (freeze-dried) powder.

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 extracellular matrix 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. Secreted Protein Acidic & Rich in Cysteine Human Recombinant produced in E.Coli is a single, non-glycosylated polypeptide chain containing 286 amino acids and having a molecular mass of 32.7kDa. SPARC is purified by proprietary chromatographic techniques.

### Product Info

**Amount :** 50 µg / 200 µg

**Purification :** Greater than 98.0% as determined by:(a) Analysis by RP-HPLC.(b) Analysis by SDS-PAGE.

**Content :** Lyophilized from a 0.2µm filtered concentrated solution in PBS, pH 7.4.

It is recommended to reconstitute the lyophilized SPARC in sterile 18M Omega -cm H<sub>2</sub>O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

**Storage condition :** Lyophilized SPARC although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution Secreted Protein Acidic & Rich in Cysteine should be stored at 4°C between 2-7 days and for future use below -18°C. Please prevent freeze-thaw cycles.

**Amino Acid :** APQQEALPDE TEVVEETVAE VTEVSVGANP VQVEVGEFDD GAEETEEVV AENPCQNHHC  
KHGKVCLEDE NNTPMCVCQD PTSCPAIGE FEKVCSDNK TFDSSCHFFA TKCTLEGTKK GHKLHLDYIG  
PCKYIPCLD SELTEFPLRM RDWLKNVLVT LYERDEDNLL LTKQKLRVK KIHENEKRL AGDHPVELLA  
RDFEKNYMY IFPVHWQFGQ LDQHPIDGYL SHTELAPLRA PLIPMEHCTT RFFETCDLND KYIALDEWA  
GCFGKQKDI DKDLVI.Å

### Application Note

The ED<sub>50</sub> as determined by its ability to inhibit the cell growth of Mv1Lu mink lung epithelial cells is < 3.0 Åµg/mL, corresponding to a specific activity of > 333 IU/mg.