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SPARC

Catalog # PVGS1084

Product Information

Primary Accession	P09486
Species	Human
Sequence	Ala18-Ile303, expressed with additional N-terminal sequence (MSYYHHHHHH DYDIPTTENLYFQGAMGS)
Purity	> 95% as analyzed by SDS-PAGE > 95% as analyzed by HPLC
Endotoxin Level	
Biological Activity	Fully biologically active when compared to standard. The ED_{50} as determined by its ability to inhibit the cell growth of Mv1Lu mink lung epithelial cells is less than 3.0 □g/ml, corresponding to a specific activity of > 333.0 IU/mg.
Expression System	E. coli
Theoretical Molecular Weight	36.1 kDa
Formulation	Lyophilized from a 0.2 □m filtered solution in PBS, pH 7.4.
Reconstitution	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/ml.
Storage & Stability	Upon receiving, this product remains stable for up to 6 months at -70°C or -20°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. Avoid repeated freeze-thaw cycles.

Additional Information

Gene ID	6678
Other Names	SPARC, Basement-membrane protein 40, BM-40, Osteonectin, ON, Secreted protein acidic and rich in cysteine, SPARC, ON
Target Background	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.

Protein Information

Name	SPARC
Synonyms	ON
Function	Appears to regulate cell growth through interactions with the extracellular matrix and cytokines. Binds calcium and copper, several types of collagen, albumin, thrombospondin, PDGF and cell membranes. There are two calcium binding sites; an acidic domain that binds 5 to 8 Ca(2+) with a low affinity and an EF-hand loop that binds a Ca(2+) ion with a high affinity.
Cellular Location	Secreted, extracellular space, extracellular matrix, basement membrane. Note=In or around the basement membrane

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