

Rev03
Update: Dec,14,2021

DATASHEET

SPARC, Human

Cat. No.: Z02804

Product Introduction

Species	Human
Protein Construction	Expressed with additional N-terminal sequence (MSYHHHHHHH DYDIPTTENLYFQGAMGS). SPARC (Ala18-Ile303) Accession # P09486
Purity	> 95% as analyzed by SDS-PAGE > 95% as analyzed by HPLC
Endotoxin Level	< 1 EU/μg of protein by LAL method
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 μg/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 μm 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.

Background

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.

Synonyms : Basement-membrane protein 40; BM-40; Osteonectin; Secreted protein acidic and rich in cysteine

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