

Recombinant Human Secreted Protein Acidic and Rich in Cysteine, His

#R00531

Size: 10 µg/100 µg/500 µg

Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.

- 1 month, 2 to 8 °C under sterile conditions after reconstitution.

- 3 months, -20 to -70 °C under sterile conditions after reconstitution.



Warning: This product is intended for scientific research only. It is not to be used for medical or diagnostic procedures in humans or animals, nor as a food, cosmetic, or household product.

Background

Secreted protein acidic and rich in cysteine (SPARC), also named as osteonectin or BM-40, is an acronym for “secreted protein, acidic and rich in cysteine”. It is encoded by the SPARC gene in humans. The protein is a glycoprotein of 40 kDa, (303 amino acid residues) and consists of 17 a.a. 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 the founding member of a family of secreted matricellular proteins with similar domain structure. It is produced by fibroblasts, capillary endothelial cells, platelets and macrophages, especially in areas of tissue morphogenesis and remodeling. SPARC is required for the collagen in bone to become calcified but is also involved in extracellular matrix synthesis and promotion of changes to cell shape. The gene product has been associated with tumor

suppression but has also been correlated with metastasis based on changes to cell shape which can promote tumor cell invasion.

AA Sequence

MSYYHHHHHHHDYDIPTTENLYFQGAMGSAPQQEALP
DETEVVEETVAEVTEVSVGANPVQVEVGEFDDGAEE
TEEEVVAENPCQNHHCCKHGKVC/LDENNTPMCVCQ
DPTSCPAIGEFKVCSDNKNKTFDSSCHFFATKCTLE
GTTKGHKLHLDYIGPCKYIPCLDSELTFLMRDW
LKNVLVTLYERDEDNNLLTEKQKLRVKKIHENEKRLA
GDHPVELLARDFEKNYNMYIFPVHWQFGQLDQHPID
GYLSHTE/LAPLAPLIMEHCTTRFFETCDLNDKYIA
LDEWAGCFGIKQKDKDLVI

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0

mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.

Product Specification

Synonyms	Basement-membrane Protein 40, BM-40, Osteonectin, ON
Accession	P09486
GeneID	6678
Species	Human
Source	Escherichia coli.
Tags	His
Molecular Weight	Approximately 36.1 kDa, a single non-glycosylated polypeptide chain containing 314 amino acids, with expression vector sequence (containing 6 × His tag).
Purity	> 95 % by SDS-PAGE and

	HPLC analyses.
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 IU/mg.
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation	Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.
Endotoxin	Less than 1 EU/µg of rHuSPARC, His as determined by LAL method.