Rat Osteonectin / SPARC Protein (His Tag)

Catalog Number: 80870-R08H

General Information

Gene Name Synonym:

SPARC

Protein Construction:

A DNA sequence encoding the rat SPARC (Met1-Ile301) was expressed with a polyhistidine tag at the C-terminus.

Source: Rat

Expression Host: HEK293 Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE.

Bio-activity:

Measured by its ability to inhibit the cell growth of Mv-1-Lu mink lung epithelial cells. The ED_{50} for this effect is typically 1-5 μg/mL.

Endotoxin:

< 1.0 EU per μg protein as determined by the LAL method.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Ala 18

Molecular Mass:

The recombinant rat SPARC consists of 295 amino acids and predicts a molecular mass of 33.8 kDa.

Formulation:

Lyophilized from sterile PBS, pH 7.4.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

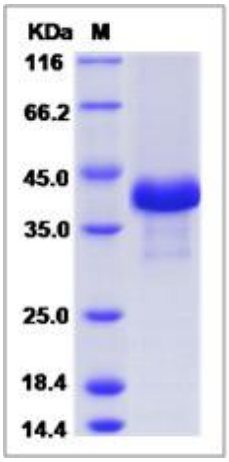
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Secreted protein acidic and rich in cysteine (SPARC), also known as Osteonectin (ON), is a member of the SPARC family. SPARC consists of three domains: a EF-hand domain, a follistatin-like domain and a Kazal-like domain, and each of which has independent activity and unique properties. The activity of SPARC is context- and cell-type-dependent, which is highlighted by the fact that SPARC has shown seemingly contradictory effects on tumor progression in both clinical correlative studies and in animal models. The location of SPARC in the nuclear matrix of certain proliferating cells, but only in the cytosol of postmitotic neurons, indicates potential functions of SPARC as a nuclear protein, which might be involved in the regulation of cell cycle progression and mitosis. It functions not only to modulate cell-cell and cell-matrix interactions, but its de-adhesive and growth inhibitory properties in non-transformed cells have led to studies to assess its role in cancer. Its divergent actions reflect the complexity of this protein, because in certain types of cancers, such as melanomas and gliomas, SPARC is associated with a highly aggressive tumor phenotype, while in others, mainly ovarian, neuroblastomas and colorectal cancers, SPARC may function as a tumor suppressor. Recent studies have also demonstrated a role for SPARC in sensitizing therapy-resistant cancers. Notably, SPARC is linked to human obesity.

References

1.Yan Q, *et al.* (1999) SPARC, a matricellular glycoprotein with important biological functions. J Histochem Cytochem. 47(12): 1495-506. 2.Brekken RA, *et al.* (2000) SPARC, a matricellular protein: at the crossroads of cell-matrix. Matrix Biol. 19(7): 569-80. 3.Tai IT, *et al.* (2008) SPARC in cancer biology: its role in cancer progression and potential for therapy. Drug Resist Updat. 11(6): 231-46.