Serglycin Human E. coli

Product Data Sheet

Type: Recombinant
Source: E. coli
Species: Human
Other names: Hematopoietic proteoglycan core protein, Platelet proteoglycan core protein, P.PG, Secretory granule proteoglycan core protein,, SRGN

Cat. No.:
RD172368100 (0.1 mg)

Description

Total 141 AA. MW: 15.9 kDa (calculated). UniProtKB acc.no. P10124 (Tyr28-Leu158). N-terminal His-tag (10 extra AA). Protein identity confirmed by LC-MS/MS.

Introduction to the Molecule

In a recent study serglycin was found to be among the most abundantly expressed proteins in adipocytes of epicardial adipose tissue in patients with coronary artery disease (CAD). It was demonstrated that TNFalpha induces expression and secretion of serglycin in adipocytes. Circulating serglycin might also participate in the mechanism of systemic vascular insult and atheromatous change. Serglycin is a dominant intracellular proteoglycan expressed by immune cells, where it interacts with numerous inflammatory mediators, such as proteases, chemokines, cytokines, and growth factors. Serglycin is implicated in their storage into the granules and their protection since they are secreted as complexes and delivered to their targets after secretion. Serglycin secretion can be induced in several cell types upon external inflammatory stimulation. The biosynthesis of serglycin is up-regulated by lipopolysaccharide (LPS) in macrophages, tumor necrosis factor (TNF) in endothelial cells and adipo¬cytes and interleukin 1b (IL-1b) in smooth muscle cells. Another interesting implication of serglycin in the regulation of immune system is its ability to inhibit complement system activity. Serglycin is also involved in apoptosis and immune regulation. Mast cells lacking serglycin expression preferentially died by necrosis rather than apoptosis. Serglycin has been shown to be a biomarker of acute myeloid leukemia (levels are higher than in acute lymphoblastic leukemia patients). Invasive nasopharyngeal carcinoma (NPC) cells secrete higher levels of serglycin and expression is elevated in NPC cells with higher metastasis potential. Serglycin is also highly expressed in breast cancer tissues and by an aggressive breast cancer cell line.

Research topic

Apoptosis, Cardiovascular disease, Immune Response, Infection and Inflammation, Oncology

Amino Acid Sequence

MKHHHHHHAS YPTRRARYQW VRCNPDSNSA NCLEEKGPMF ELLPGESNKI PRLRTDLFPK TRIQDLNRIF PLSEDYSGSG FGSGSGSGSG SGSGFLTEME QDYQLVDESD AFHDNLRSLD RNLPSDSQDL GQHGLEEDFM L

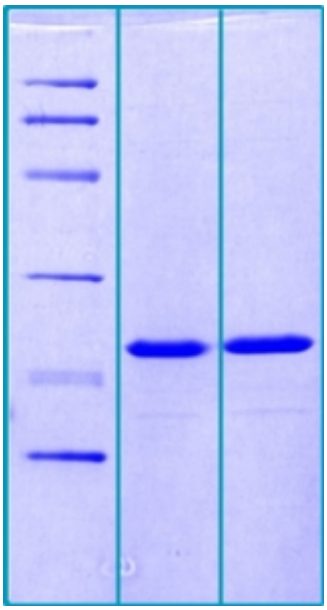
Source

E. coli

Purity

Purity as determined by densitometric image analysis: >95%

SDS-PAGE gel



14 % SDS-PAGE separation of Human Serglycin:

1. M.W. marker - 14, 21, 31, 45, 66, 97 kDa

2. reduced and boiled sample, 2.5 µg/lane

3. non-reduced and non-boiled sample, 2.5 µg/lane

Endotoxin

< 1.0 EU/ug

Formulation

Filtered (0.4 µm) and lyophilized in 20mM Tris buffer, 50 mM NaCl, pH 7,4, 1% (w/v) Sucrose, 4% (w/v) Mannitol

Reconstitution

Add 200 µl of deionized water to prepare a working stock solution of approximately 0.5 mg/ml and let the lyophilized pellet dissolve completely. Filter sterilize your culture media/working solutions containing this non-sterile product before using in cell culture.

Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

Storage, Stability/Shelf Life

Store the lyophilized protein at -80 °C. Lyophilized protein remains stable until the expiry date when stored at -80 °C. Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at -80 °C for long term storage. Reconstituted protein can be stored at 4 °C for a week.

Quality Control Test

BCA to determine quantity of the protein.
SDS-PAGE to determine purity of the protein.
LAL TEST to determine endotoxin level.

Applications

ELISA, Western blotting

Note

This product is intended for research use only.

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