

S100A11 Human E. coli

Product Data Sheet

Type: Recombinant

Source: E. coli

Species: Human

Other names: S100 calcium-binding protein A11, Protein S100-C, Calgizzarin Metastatic lymph node gene 70 protein, MLN70, S100C

Cat. No.:

RD172220100

(0.1 mg)

Description

Total 115 AA. MW: 12,98 kDa (calculated). UniProtKB acc.no. P31949. N-Terminal His-tag, 10 extra AA (highlighted).

Introduction to the Molecule

S100A11 (S100C; calgizzarin) was first isolated from chicken gizzard smooth muscle. Human homologue was later identified in human colorectal cancer cells and in colorectal normal mucosa, with much higher expression in the cancer cells. S100A11 is a member of the S100 family of proteins containing 2 EF-hand calcium-binding motifs. The polypeptide chain consists of 105 amino acid residues giving molecular weight of unmodified monomeric protein 11.74 kDa. Disulphide bridge linking two monomers in the dimer via Cys-11 residues was found in its structure. The protein can be phosphorylated on some residues from which at least phosphorylation on Thr-10 causes significant structural changes. S100A11 binds to annexins A1 and A2, the DNA-dependent ATPase Rad54B, p53 and RAGE. It was proposed that up-regulated chondrocyte expression of S100A11 (as RAGE ligand) in OA cartilage and RAGE signaling through the p38 MAPK pathway promote inflammation-associated chondrocyte hypertrophy. RAGE signaling mediated by S100A11 thereby might have the potential to contribute to the progression of OA. S100A11 has also been shown to be secreted and to exert RAGE dependent signaling in human keratinocytes. S100A11 was found in many different human both normal and cancer tissues. S100A11 appears to play distinct roles depending on the tumour involved. In bladder carcinoma or renal carcinoma expression is related to tumour suppression however in prostate cancer, breast and pancreatic cancer S100A11 is thought to be a tumour promoter. S100A11 has been also indicated as one of potential biomarkers of infective endocarditis.

Research topic

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

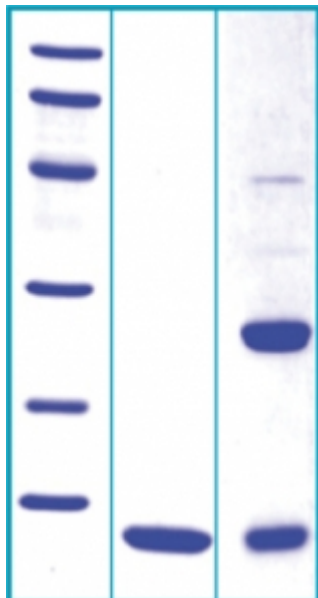
Amino Acid Sequence

MKHHHHHHAS MAKISSPTET ERCIESLIAV FQKYAGKDG Y NYTL SKTEFL SFMNT ELAAF TKNQKDPGVL DRMMKKLDTN
SDGQLDFSEF LNLIGGLAMA CHDSFLKAVP SQKRT

Source

E. coli

SDS-PAGE gel



14% SDS-PAGE separation of Human S100A11 protein

1. M.W. marker - 14, 21, 31, 45, 66, 97 kDa
2. reduced and heated sample, 5µg / lane
3. non-reduced and non-heated sample, 5µg / lane

Formulation

Filtered (0,4 µm) and lyophilized in 0.5 mg/mL in 20mM TRIS, 50mM NaCl, pH 7.5

Reconstitution

Add 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 lyophilized protein at -20°C. Lyophilized protein remains stable until the expiry date when stored at -20°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 limited period of time; it does not show any change after one week at 4°C.

Quality Control Test

BCA to determine quantity of the protein.
SDS PAGE to determine purity of the protein.

Applications

Western blotting

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