S100P Human E. coli

Product Data Sheet

Type: Recombinant
Source: E. coli
Species: Human
Other names: S100 calcium-binding protein P, Protein S100-E, S100E

Cat. No.:
RD172048100 (0.1 mg)

Description

Total 105 AA. MW: 11.64 kDa (calculated). N-Terminal His-tag (10 extra AA). UniprotKB acc.no. P25815

Introduction to the Molecule

S100P was originally described as a placental protein of 95 amino acid residues shares about 50% sequence identity with the brain S100 proteins alpha and beta.
S100 proteins are small dimeric members of the EF-hand superfamily of Ca(2+) binding proteins thought to participate in mediating intracellular Ca(2+) signals by binding to and thereby regulating target proteins in a Ca(2+)-dependent manner.
S100P is dysregulated in the androgen-independent prostate cancer cell lines LNCaP-R, DU145, and PC3 and may play a role in the etiology of prostate cancer.
In ductal hyperplasias, *in situ* and invasive ductal carcinoma, but not in the normal tissues, S100P overexpression is an early event that might play an important role in the imortalization of human breast epithelial cells in vitro and tumor progression in vivo.
In NIH3T3 cells, the expression of S100P led to the presence of S100P in the culture medium, increased cellular proliferation, and enhanced survival following detachment from the culture substrate or after exposure to the chemotherapeutic agent 5-flurouracil. The proliferation and survival effects of S100P expression were duplicated in a time- and concentration-dependent manner by extracellular addition of purified S100P to wild-type NIH3T3 cells and correlated with the activation of Erks and NF-B. To determine the mechanisms involved in these effects, we tested the hypothesis that S100P activated RAGE (Receptor for Activated Glycation End-Products). It was found that S100P co-immunoprecipitated with RAGE. Furthermore, the effects of S100P on cell signaling, proliferation and survival were blocked by agents that interfere with RAGE including administration of an amphoterin derived peptide known to antagonize RAGE activation, anti-RAGE antibodies and by expression of a dominant negative RAGE. These data suggest that S100P can act in an autocrine manner via RAGE to stimulate cell proliferation and survival.

Research topic

Cardiovascular disease, Oncology, Reproduction

Amino Acid Sequence

MKHHHHHHAS MTELETAMGM IIDVFSRYSG SEGSTQTLTK GELKVLMEKE LPGFLQSGKD KDAVDKLLKD LDANGDAQVD FSEFIVFVAA ITSACHKYFE KAGLK

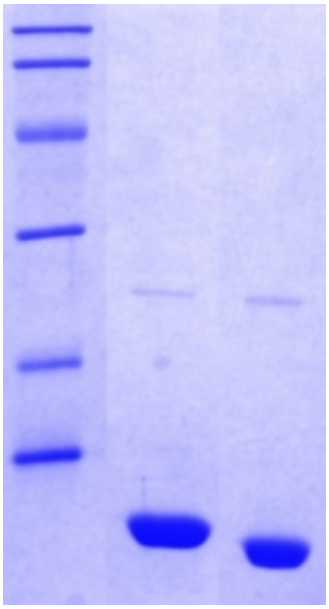
Source

E. coli

Purity

Purity as determined by densitometric image analysis: >95%

SDS-PAGE gel



14% SDS-PAGE separation of Human S100P
1. M.W. marker - 14, 21, 31, 45, 66, 97 kDa
2. reduced and heated sample, 2.5µg/lane
3. non-reduced and non-heated sample, 2.5µg/lane

Endotoxin

< 1.0 EU/ug

Formulation

Filtered (0.4 µm) and lyophilized from 0.5 mg/ml in 20mM Tris buffer, 50mM NaCl, pH 7.5

Reconstitution

Add 200ul of deionized water to prepare a working stock solution of approximately 0.5 mg/ml and let the lyophilized pellet dissolve completely. Product is not sterile! Please filter the product by an appropriate sterile filter before using it in the cell culture.

Shipping

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

Storage, Stability/Shelf Life

Store 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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