BioVendor - Laboratorní medicína a.s.
Karásek 1767/1
621 00 Brno

Date of issue: 14.11.2017

PRODUCT DATASHEET

S100A8 Human E. coli

Cat. No.: RD172217100
Type: Recombinant
Size: 0.1 mg
Source: E. coli
Species: Human

Description

Total 103 AA. MW: 12.08 kDa (calculated). UniProtKB acc.no. P05109. N-Terminal His-tag, 10 extra AA (highlighted).

Other names

S100 calcium-binding protein A8, Calgranulin-A, Migration inhibitory factor-related protein 8, MRP-8, p8, Cystic fibrosis antigen, CFAG, Leukocyte L1 complex light chain, Calprotectin L1L subunit, Urinary stone protein band A, S100A8, CAGA, CFAG, MRP8

Introduction to the molecule

S100A8 and S100A9 belong to a family of 25 homologous low-molecular-weight intracellular calcium-binding proteins that exhibit tissue and cell-specific expression. They are characterized by two distinct EF-hand (helix-loop-helix) calcium-binding domains connected by a hinge region. The N-terminal Ca2+ binding domain has lower affinity than the canonical C-terminal domain that allows for functionally important second messenger roles dependent on intracellular Ca2+ levels. Human S100A8 (also known as MRP8, calgranulin A, L1 light chain, cystic fibrosis antigen) is the most closely related member of the human (h) S100 family to mS100A8, although the level of homology is low (69% at the DNA level; 58% at the amino acid level). Human S100A8 is a calcium-binding protein member of the S100 protein family, is highly expressed in the cytosol of neutrophils and monocytes, and is frequently found at high levels in the extracellular milieu during inflammatory conditions. S100A8 is almost exclusively expressed by cells of myeloid lineage and is constitutively expressed in the cytosol of neutrophils. Monocytes and differentiated macrophages from inflamed tissues also express S100A8. Increased serum levels of the S100A8 (MRP-8) protein have been reported in inflammatory conditions including bacterial infection, arthritis, and cystic fibrosis (CF). Preferentially exists as a heterodimer or heterotetramer with S100A9 known as calprotectin (S100A8/A9). Calprotectin (S100A8/9) is predominantly expressed in myeloid cells. Except for inflammatory conditions, the expression is restricted to a specific stage of myeloid differentiation since both proteins are expressed in circulating neutrophils and monocytes but are absent in normal tissue macrophages and lymphocytes. Under chronic inflammatory conditions, such as psoriasis and malignant disorders, also expressed in the epidermis. Found in high concentrations at local sites of inflammation or in the serum of patients with inflammatory diseases such as rheumatoid, cystic fibrosis, inflammatory bowel disease, Crohn's disease, giant cell arteritis, cystic fibrosis, Sjogren's syndrome, systemic lupus erythematosus, and progressive systemic sclerosis. Involved in the formation and deposition of amyloids in the aging prostate known as corpora amylacea inclusions. Strongly up-regulated in many tumors, including gastric, esophageal, colon, pancreatic, bladder, ovarian, thyroid, breast and skin cancers.

Research topic

Immune Response, Infection and Inflammation, Oncology, Pulmonary diseases, Sepsis

Amino Acid sequence

MKHHHHHHAS MLTELEKALN SIIDVYHKYS LIKGNFHAVY RDDLKKLLET ECPQYIRKKG ADVWFKELDI NTDGAVNFQE FLILVIKMGV AAHKKSHEES HKE

Endotoxin

< 0.1 EU/µg

BioVendor - Laboratorní medicína a.s.
Karásek 1767/1
621 00 Brno, Czech Republic

Phone: +420-549-124-185, Fax: +420-549-211-460
E-mail: info@biovendor.com, sales@biovendor.com
Web: www.biovendor.com
There are BioVendor branches and distributors near you.
To find the office closest to you, visit www.biovendor.com/contact

Formulation:

Filtered (0,4 µm) and lyophilized in 0.5 mg/mL in 20mM TRIS, 100mM NaCl, pH 8.0

Reconstituion:

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 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

BCA to determine quantity of the protein.

SDS PAGE to determine purity of the protein.

LAL to determine quantity of endotoxin.

Applications

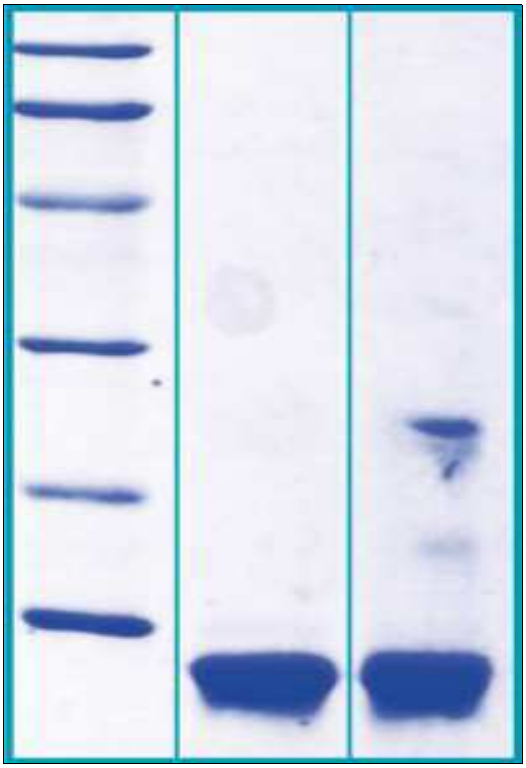
Western blotting

BioVendor - Laboratorní medicína a.s.
Karásek 1767/1
621 00 Brno, Czech Republic

Phone: +420-549-124-185, Fax: +420-549-211-460
E-mail: info@biovendor.com, sales@biovendor.com
Web: www.biovendor.com
There are BioVendor branches and distributors near you.
To find the office closest to you, visit www.biovendor.com/contact

BioVendor - Laboratorní medicína a.s.
Karásek 1767/1
621 00 Brno

Date of issue: 14.11.2017



14% SDS-PAGE separation of Human S100A8 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

BioVendor - Laboratorní medicína a.s.
Karásek 1767/1
621 00 Brno, Czech Republic

Phone: +420-549-124-185, Fax: +420-549-211-460
E-mail: info@biovendor.com, sales@biovendor.com
Web: www.biovendor.com
There are BioVendor branches and distributors near you.
To find the office closest to you, visit www.biovendor.com/contact