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

Date of issue: 18.10.2018

PRODUCT DATASHEET

Allograft Inflammatory Factor 1 Human E. coli

Cat. No.: RD172204100
Type: Recombinant protein
Size: 0.1 mg
Source: E. coli
Species: Human

Description

Total 155 aa; MW 17,7 kDa (calculated); UniProtKB acc.no. P55008; N-terminal His-tag; 9 extra amino acids (highlighted);

Other names

AIF-1, Ionized calcium-binding adapter molecule 1, Protein G1, AIF1, G1, IBA1

Introduction to the molecule

Allograft inflammatory factor 1 (AIF-1), is a 17kDa cytoplasm, calcium-binding protein that in humans is encoded by the AIF1 gene. This gene is induced by cytokines and interferon. Three transcript variants encoding different isoforms have been found for this gene. The AIF1 gene is conserved in chimpanzee, Rhesus monkey, dog, cow, mouse, and rat. Allograft inflammatory factor 1 plays a important role in vascular inflammation. AIF-1 is thought to be involved in negative regulation of growth of vascular smooth muscle cells, which contributes to the anti-inflammatory response to vessel wall trauma. AIF-1 also plays an important role in immune response and vasculopathy in allografts. AIF-1 was found in both cardiac allografts and hearts with other cardiac cellular diseases. In cardiac allografts, expression levels of AIF-1 in both cardiomyocytes and mononuclear cells directly correlated with the severity of cardiac cellular rejection. Thus, AIF-1 shows promise that it can be a potential biomarker for cardiac allograft rejection. AIF-1 is a protein whose expression in transplanted human hearts correlates with rejection and development of coronary artery vasculopathy (CAV). AIF-1 is crucial for the survival and pro-inflammatory activity of macrophages. Pro-inflammatory cytokines induced p-regulation of AIF-1 in macrophages. AIF-1 promote the activation and proliferation of T-lymphocytes and enhances lymphocyte migration. In human coronary artery vasculopathy, AIF-1 is expressed in T lymphocytes, and expression increases when T cells are activated. Increased numbers of AIF-1 immunoreactive macrophages/mi-croglial cells were observed in focal human brair infarctions and human traumatic brain injury, in inflammatory lesions of a rat model of autoimmune disease and other disorders. Functional studies revealed that AIF-1 is secreted into the blood stream during experimental autoimmune neuritis. The results of several studies suggest that enhanced AIF-1 expression leads to augmented incorporation of degenerated LDL by macrophages and promotes development of atherosclerotic vasculopathy. AIF-1 is also expressed in tissues from patients with systemic sclerosis.

Research topic

Cardiovascular disease, Immune Response, Infection and Inflammation, Transplantation

Amino Acid sequence

MKHHHHHHAS QTRDLQGGKA FGLLKAQQEE RLDEINKQFL DDPKYSSDED LPSKLEGFKE KYMEFDLNGN GDIDIMSLKR MLEKLGVPKT HLELKKLIGE VSSGSGETFS YPDFLRMMLG KRSAILKMIL MYEEKAREKE KPTGPPAKKA ISELP

Endotoxin

< 0.1 EU/µg

Formulation:

Filtered (0.4 µm) and lyophilized in 0.5 mg/mL in 20mM TRIS, 50mM NaCl, pH 7.5

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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.

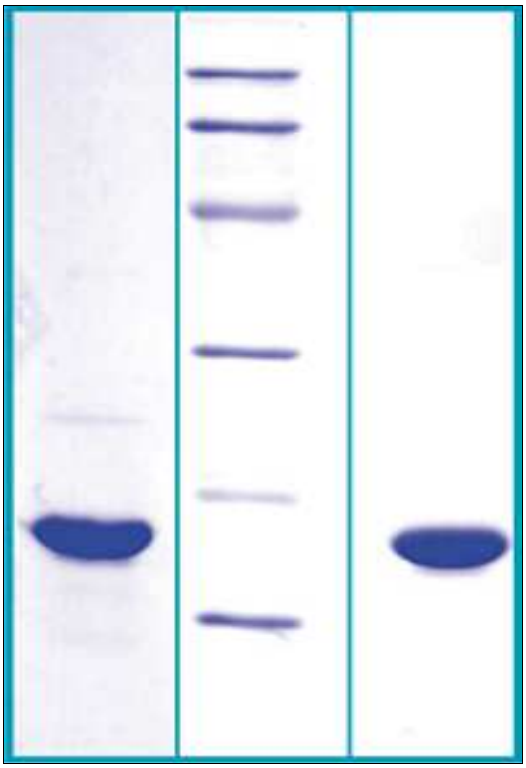
Storage, Stability/Shelf Life
Store lyophilized protein at –80°C. Lyophilized protein remains stable until the expiry date when stored at –80°C. Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at –80°C for long term storage. Reconstituted protein can be stored at 4°C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



14% SDS-PAGE separation of Human AIF-1
1. reduced and heated sample, 5µg/lane
2. M.W. marker – 14, 21, 31, 45, 66, 97 kDa
3. non-reduced and non-heated sample, 5µg/lane

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