Allograft Inflammatory Factor 1 Human E. coli

Product Data Sheet

Type: Recombinant
Source: E. coli
Species: Human
Other names: AIF-1, Ionized calcium-binding adapter molecule 1, Protein G1, AIF1, G1, IBA1

Cat. No.:
RD172204100 (0.1 mg)

Description

Total 155 aa; MW 17,7 kDa (calculated); N-terminal His-tag; 9 extra amino acids (highlighted);

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 brain 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

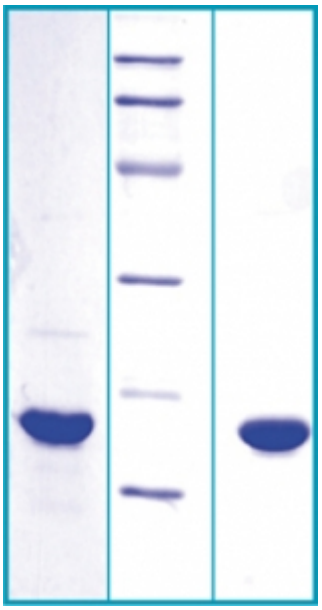
Amino Acid Sequence

MKHHHHHHAS QT-RDLQGGKA FGLLKAQQEE RLDEINKQFL DDPKYSSDED LPSKLEGFKE KYMEFDLNGN GDIDIMSLKR MLEKLGVPKT HLELKKLIGE VSSGSGETFS YPDFLRMMLG KRSAILKMIL MYEEKAREKE KPTGPPAKKA ISELP

Source

E. coli

SDS-PAGE gel



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

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. 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.

Applications

Western blotting

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