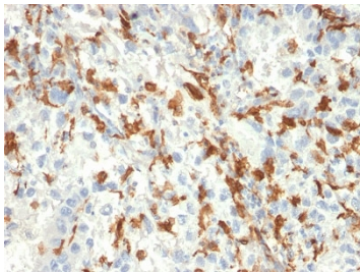
AIF1 Antibody / Macrophage Activation Marker Antibody [clone AIF1/2493] (V3809)

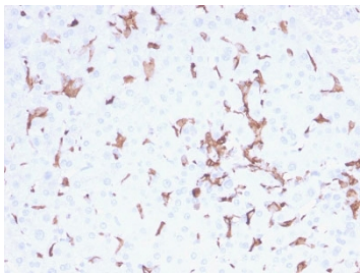
Catalog No.	Formulation	Size
V3809-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3809-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3809SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

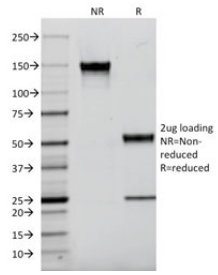
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2c, kappa
Clone Name	AIF1/2493
Purity	Protein G affinity chromatography
UniProt	P55008
Localization	Cytoplasmic, membranous
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This AIF1 Antibody / Macrophage Activation Marker Antibody is available for research use only.



AIF1 Antibody Human Kidney IHC. Immunohistochemistry analysis of FFPE human kidney tissue using AIF1 Antibody (clone AIF1/2493) demonstrates HRP-DAB brown cytoplasmic staining in interstitial macrophages and mononuclear cells surrounding renal tubules and glomeruli, consistent with AIF1 / IBA1 expression as a macrophage activation marker involved in immune surveillance and inflammatory response, while tubular epithelial cells remain largely negative; nuclei are counterstained blue. HIER: boil tissue sections in pH 6 10 mM citrate buffer for 10-20 min followed by cooling at room temperature for 20 min.



AIF1 Antibody Human Spleen IHC. Immunohistochemistry analysis of FFPE human spleen tissue using AIF1 Antibody (clone AIF1/2493) shows HRP-DAB brown cytoplasmic staining in scattered macrophages within the splenic parenchyma, including cells associated with red pulp regions, consistent with AIF1 / IBA1 expression as a macrophage activation marker involved in immune surveillance and inflammatory response, while surrounding lymphocytes remain largely negative; nuclei are counterstained blue. HIER: boil tissue sections in pH 6 10 mM citrate buffer for 10-20 min followed by cooling at room temperature for 20 min.



SDS-PAGE analysis of purified, BSA-free AIF1 antibody (clone AIF1/2493) as confirmation of integrity and purity.

Description

Allograft inflammatory factor 1 (AIF1) is a calcium-binding cytoplasmic protein encoded by the AIF1 gene and expressed in activated macrophages and microglia, where it functions as a conserved marker of immune cell activation. AIF1 Antibody / Macrophage Activation Marker Antibody (clone AIF1/2493) targets this protein, which is predominantly localized in the cytoplasm of monocyte-derived cells within peripheral tissues, including lymphoid organs and sites of inflammation. AIF1 antibody, also referred to as IBA1 antibody and Allograft inflammatory factor 1 antibody in the literature, detects a key regulator of macrophage activation, migration, and cytoskeletal dynamics.

Functionally, AIF1 plays an important role in macrophage activation and inflammatory signaling. It participates in actin-bundling and membrane remodeling processes that enable macrophages to migrate, phagocytose cellular debris, and respond to inflammatory stimuli. AIF1 expression is upregulated in activated macrophages and is closely associated with immune response pathways, including cytokine production and cellular activation cascades. These functions make AIF1 a widely used marker for identifying activated macrophages in both normal and diseased tissues.

In peripheral tissues, AIF1 expression is commonly observed in macrophage populations within lymphoid organs such as tonsil, lymph node, and spleen, as well as in interstitial immune cells present in organs such as kidney and liver. In these contexts, staining is typically cytoplasmic, reflecting its intracellular localization and role in cytoskeletal organization. While AIF1 is also well known as a microglia marker in the central nervous system, its expression in peripheral macrophages provides a broader framework for studying immune activation and inflammatory processes. The AIF1 gene is located on chromosome 6p21.3 within the major histocompatibility complex region, consistent with its role in immune regulation.

Structurally, AIF1 contains EF-hand calcium-binding domains that mediate interactions with actin filaments and intracellular signaling molecules. These domains enable calcium-dependent regulation of cell shape, motility, and activation, supporting dynamic responses to environmental cues. AIF1 has been shown to co-localize with cytoskeletal structures and membrane-associated regions in macrophages, reinforcing its role in cellular movement and immune function. In addition to structural roles, AIF1 participates in signaling pathways that regulate inflammatory gene expression and macrophage activation states.

Altered AIF1 expression is associated with a range of inflammatory and pathological conditions, including transplant rejection, autoimmune diseases, and tumor-associated macrophage activity. In cancer, AIF1-positive macrophages are often present within the tumor microenvironment and contribute to immune modulation and disease progression. In inflammatory disorders, increased AIF1 expression reflects macrophage activation and tissue response to injury or infection, highlighting its importance as an immune activation marker.

This antibody provides reliable detection of AIF1 / IBA1 in macrophage populations within peripheral tissues, supporting its use as a macrophage activation marker in immunohistochemistry and related applications. An AIF1 antibody is suitable for detecting this immune cell marker in research applications focused on inflammation, immune regulation, and macrophage biology.

For detection of AIF1 as a microglia marker across tissue types, including protein microarray validated performance, see our IBA1 antibody.

Application Notes

Titering of the AIF1 Antibody / Macrophage Activation Marker Antibody may be required for optimal performance.

Immunogen

A portion of amino acids 1-146 from the human protein was used as the immunogen for the AIF1 antibody.

Storage

Store the AIF1 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

IBA1 antibody, Allograft inflammatory factor 1 antibody, AIF1 macrophage antibody, IBA1 immune marker antibody, AIF1 inflammation marker antibody

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