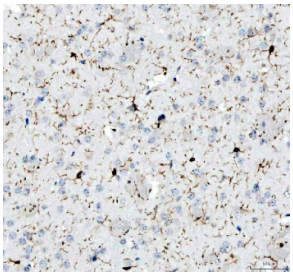
AIF1 Antibody / Microglia Detection Antibody (R32736)

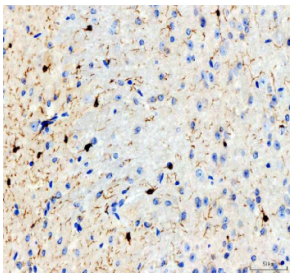
Catalog No.	Formulation	Size
R32736	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

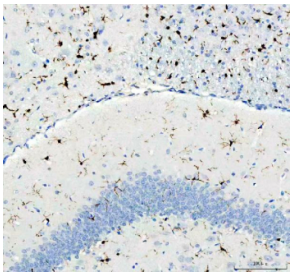
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat, Pig
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P55008
Localization	Cytoplasmic, membranous
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml
Limitations	This AIF1 Antibody / Microglia Detection Antibody is available for research use only.



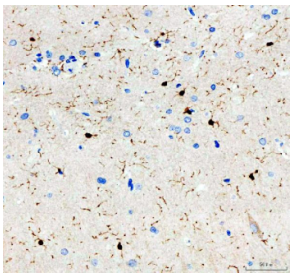
AIF1 Antibody Mouse Brain IHC. Immunohistochemistry analysis of paraffin-embedded mouse brain tissue using AIF1 Antibody demonstrates HRP-DAB brown cytoplasmic staining in microglial cells distributed throughout the neural parenchyma, with characteristic ramified morphology and fine cellular processes consistent with AIF1 / IBA1 expression as a microglia marker involved in neuroinflammatory response and immune surveillance, while neurons and glial cells remain largely negative; nuclei are counterstained blue. HIER: heat-mediated antigen retrieval in EDTA buffer (pH 8.0).



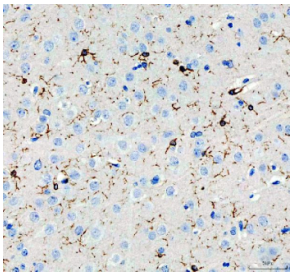
AIF1 Antibody Mouse Brain IHC. Immunohistochemistry analysis of paraffin-embedded mouse brain tissue using AIF1 Antibody demonstrates HRP-DAB brown cytoplasmic staining in scattered microglial cells within the neural parenchyma, showing characteristic ramified morphology with fine branching processes consistent with AIF1 / IBA1 expression as a microglia marker involved in neuroimmune surveillance and inflammatory activation, while surrounding neurons and other glial cells remain largely negative; nuclei are counterstained blue. HIER: heat-mediated antigen retrieval in EDTA buffer (pH 8.0).



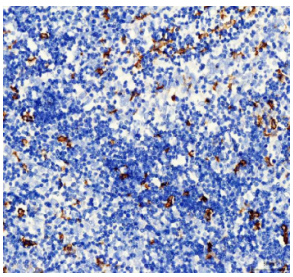
AIF1 Antibody Rat Brain IHC. Immunohistochemistry analysis of paraffin-embedded rat brain tissue using AIF1 Antibody demonstrates HRP-DAB brown cytoplasmic staining in microglial cells distributed throughout the neural parenchyma, including regions adjacent to neuronal layers, with characteristic ramified morphology and fine processes consistent with AIF1 / IBA1 expression as a microglia marker involved in neuroinflammatory surveillance, while neurons remain largely negative; nuclei are counterstained blue. HIER: heat-mediated antigen retrieval in EDTA buffer (pH 8.0).



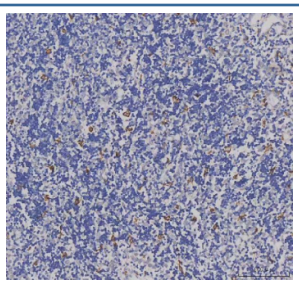
AIF1 Antibody Rat Brain IHC. Immunohistochemistry analysis of paraffin-embedded rat brain tissue using AIF1 Antibody demonstrates HRP-DAB brown cytoplasmic staining in dispersed microglial cells throughout the neural parenchyma, exhibiting characteristic ramified morphology with elongated processes consistent with AIF1 / IBA1 expression as a microglia marker associated with neuroimmune surveillance and activation, while surrounding neuronal cells remain largely negative; nuclei are counterstained blue. HIER: heat-mediated antigen retrieval in EDTA buffer (pH 8.0).



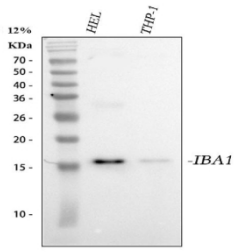
AIF1 Antibody Pig Brain IHC. Immunohistochemistry analysis of paraffin-embedded pig brain tissue using AIF1 Antibody demonstrates HRP-DAB brown cytoplasmic staining in scattered microglial cells throughout the neural parenchyma, displaying characteristic ramified morphology with fine branching processes consistent with AIF1 / IBA1 expression as a microglia marker involved in neuroimmune surveillance and inflammatory response, while surrounding neuronal cells remain largely negative; nuclei are counterstained blue. HIER: heat-mediated antigen retrieval in EDTA buffer (pH 8.0).



AIF1 Antibody Spleen IHC. IBA1/AIF-1 was detected in paraffin-embedded sections of human spleen tissue. Heat-mediated antigen retrieval was performed in EDTA buffer (pH 8.0). The tissue sections were blocked with 10% goat serum and incubated with rabbit anti-IBA1/AIF-1 antibody overnight at 4Â°C. Peroxidase-conjugated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37Â°C. The tissue sections were developed using an HRP-conjugated detection system with DAB as the chromogen.



AIF1 Antibody Human Spleen Tissue IHC. IBA1/AIF-1 was detected in paraffin-embedded sections of human spleen tissue. Heat-mediated antigen retrieval was performed in EDTA buffer (pH 8.0). The tissue sections were blocked with 10% goat serum and incubated with rabbit anti-IBA1/AIF-1 antibody overnight at 4Â°C. Peroxidase-conjugated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37Â°C. The tissue sections were developed using an HRP-conjugated detection system with DAB as the chromogen.



AIF1 Antibody WB. IBA1/AIF-1 antibody immunoreactivity is observed in human HEL and THP-1 whole cell lysate western blot. Proteins were separated by SDS-PAGE under reducing conditions and transferred to a nitrocellulose membrane. Lane 1: human HEL whole cell lysates; Lane 2: human THP-1 whole cell lysates. A distinct band is detected at approximately 17 kDa, consistent with the predicted molecular weight of IBA1/AIF-1.

Description

Allograft inflammatory factor 1 (AIF1) is a calcium-binding cytoplasmic protein encoded by the AIF1 gene and widely recognized as IBA1, a marker of microglia in the central nervous system and macrophages in peripheral tissues. AIF1 Antibody / Microglia Detection Antibody targets this protein, which is predominantly localized in the cytoplasm of microglial cells in brain tissue, where it is used extensively to identify resident immune cells and assess neuroinflammatory activity. AIF1 antibody, also referred to as IBA1 antibody and Allograft inflammatory factor 1 antibody in the literature, detects a key regulator of immune cell activation, migration, and cytoskeletal remodeling.

Functionally, AIF1 plays an essential role in microglial activation and motility, contributing to immune surveillance within the central nervous system. It participates in actin-bundling and membrane ruffling processes that enable microglia to extend processes, migrate toward sites of injury, and engage in phagocytosis. AIF1 expression is upregulated in activated microglia and is widely used to monitor neuroinflammatory responses in models of brain injury, neurodegeneration, and infection. Through its involvement in cytoskeletal organization and intracellular signaling pathways, AIF1 supports dynamic changes in microglial morphology and function.

In brain tissue, AIF1 is specifically enriched in microglial cells distributed throughout gray and white matter regions. Resting microglia typically display a ramified morphology with fine branching processes, while activated microglia exhibit increased AIF1 expression along with hypertrophic or amoeboid morphology. This makes AIF1 a reliable marker for distinguishing microglial activation states in immunohistochemical analysis. In addition to its role in the central nervous system, AIF1 is also expressed in macrophages in peripheral tissues, reflecting its broader function as a conserved immune lineage protein. 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 regulate its interaction with actin filaments and other cytoskeletal components. These domains enable calcium-dependent modulation of cell shape, motility, and activation. AIF1 has been shown to co-localize with actin structures in microglia, supporting its role in cellular dynamics and immune response. It also participates in signaling pathways that influence inflammatory gene expression and cellular activation, reinforcing its importance in neuroimmune biology.

Altered AIF1 expression is associated with a range of neurological and inflammatory conditions, including Alzheimer's disease, Parkinson's disease, multiple sclerosis, and traumatic brain injury, where microglial activation is a defining feature. Increased IBA1 staining is widely used as an indicator of neuroinflammation and microglial response in both experimental models and human tissue samples. These disease associations underscore the importance of AIF1 as a marker for studying central nervous system pathology.

This antibody provides reliable detection of AIF1 / IBA1 in brain tissue, supporting its use as a microglia detection antibody in immunohistochemistry applications. An AIF1 antibody is suitable for detecting this microglia marker in research applications focused on neuroinflammation, central nervous system injury, and immune responses within the brain.

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

Application Notes

Optimal dilution of the AIF1 Antibody / Microglia Detection Antibody should be determined by the researcher.

Immunogen

Amino acids 99-133 (ETFSYPDFLRMMLGKRSAILKMILMYEEKAREKEK) from the human protein were used as the immunogen for the IBA1 / AIF1 antibody.

Storage

After reconstitution, the IBA1 / AIF1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

IBA1 antibody, Allograft inflammatory factor 1 antibody, IBA1 microglia antibody, AIF1 brain antibody, IBA1 immunohistochemistry antibody

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