

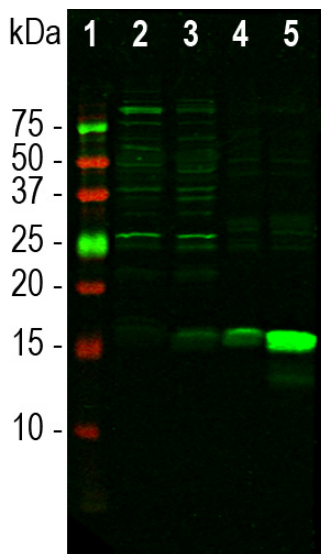
Ordering Information
 Web www.encorbio.com
 Email admin@encorbio.com
 Phone 352-372-7022
 Fax 352-372-7066

HGNC Name: AIF1
UniProt: P55008
RRID: AB_2722747
Immunogen: Peptide identical to the C-terminal of human IBA1 coupled to KLH
Format: Supplied as an aliquot of serum plus 5mM NaH₂
Storage: Stable at 4°C for one year, for longer term store at -20°C. Avoid freeze/thaw cycles.
Recommended dilutions:
 WB: 1:1,000-5,000. IF 1:2,000-5,000. IHC: 1:1,000

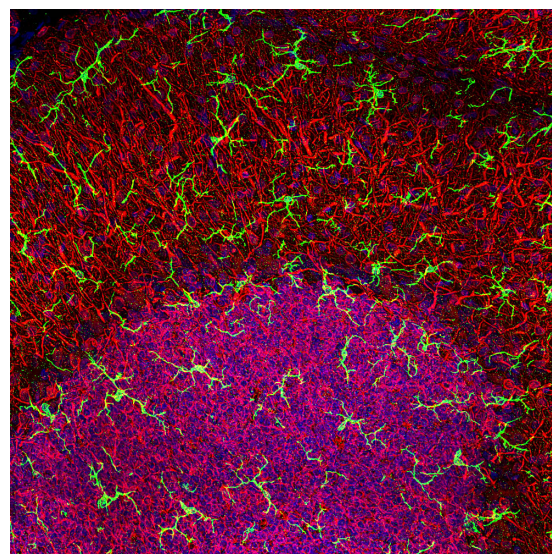
References:

- Utans U, Arcenci RJ, Yamashita Y, Russell ME. Cloning and characterization of allograft inflammatory factor-1: a novel macrophage factor identified in rat cardiac allografts with chronic rejection. *J. Clin. Invest.* 95:2954-62 (1995).
- Ito D, et al. Microglia-specific localisation of a novel Calcium binding protein, Iba1. *Brain Res. Mol. Brain Res.* 57:1-9 (1998).
- Ahmed Z, et al. Actin-binding proteins Coronin-1a and IBA-1 are effective microglial markers for use in Immunohistochemistry. *J. Histochem. Cytochem.* 55:687-700 (2007).
- Nimmerjahn A, Kirchhoff F, Helmchen F. Resting Microglial Cells Are Highly Dynamic Surveillants of Brain Parenchyma in Vivo. *Science* 308:1314-8 (2005).
- Cardona AE, et al. Control of microglial neurotoxicity by the fractalkine receptor. *Nat. Neurosci.* 9:917-24 (2006).
- Mildner A, et al. Microglia in the adult brain arise from Ly-6ChiCCR2+ monocytes only under defined host conditions. *Nat. Neurosci.* 10:1544-53 (2007).

Applications	Host	Isotype	Molecular Wt.	Species Cross-Reactivity
WB, IF/ICC, IHC	Rabbit		17kDa	Hu, Rt, Ms



Western blot analysis of different tissue lysates using rabbit pAb to IBA1, RPCA-IBA1, dilution 1:1,000 in green: [1] protein standard (red), [2] mouse brain, [3] rat brain, [4] mouse spleen, and [5] rat spleen. The band at about 15kDa mark corresponds to IBA1 protein. IBA1 is a relatively minor protein of brain and is much more abundant in spleen, so the 15kDa band is less obvious in CNS lysates. The other bands seen in the CNS lysates are of unknown origin but do not appear to compromise the microglial specific staining seen with this antibody.



High magnification stacked confocal image of rat cerebellar molecular layer at top and granular layer below, stained with RPCA-IBA1, dilution 1:1,000, in green. Microglia are very small cells with fine processes spreading in three dimensions and so are best visualized in a confocal Z stack. Red shows the processes of Purkinje cells and the perikarya of granule cells revealed with CPCA-MAP2, an antibody to MAP2, 1:5,000. Nuclear DNA is shown with DAPI stain in blue. This image is part of one of our high resolution poster images, see Poster-27.

Background:

IBA1 is an acronym for "ionized Calcium binding adapter molecule 1", and the protein is also known as AIF1 for "allograft inflammatory factor 1". AIF1 was originally identified, cloned and sequenced as a protein heavily upregulated in an animal model of graft rejection (1). The AIF1 protein was localized in macrophages and neutrophils surrounding and infiltrating the graft site. Shortly afterwards the same protein was identified a gene product which had some interesting properties, including Calcium binding and the important observation that IBA1 was only expressed in hematopoietic cells (2). IBA1 and AIF1 were subsequently found to be identical, a small globular 17kDa molecule belonging to the "EF" hand superfamily of Calcium binding proteins. Since the only hematopoietic cells and in the neuropil of the central nervous system are microglia, suitable IBA1 antibodies are widely used to identify microglial cells in sections and tissues (3). In tissue samples from which they have not been washed out by perfusion, lymphocytes within blood vessels are also IBA1 positive. Microglia are the immunocompetent cells of the CNS and are extremely important in responses to injury and disease. Microglial are small but very active cells which constantly send processes probing their neighborhood and which alter morphology and are induced to divide following a variety of CNS compromises (4). Many important and highly cited papers have made use of IBA1 antibodies as markers of microglia (e.g. 5,6).

The RPCA-IBA1 antibody was made against the C-terminal peptide of human IBA1 coupled to keyhole limpet hemocyanin. It works well on western blots, on cells cultures and sectioned material. We recently verified this antibody for use on formalin fixed paraffin embedded material, select the "additional info" tab. We market another rabbit polyclonal to coronin 1a [RPCA-Cor1a](#), another hematopoietic protein specifically expressed in microglia in the nervous system. The ICC image shown here is part of one of our high resolution poster images, see [Poster-27](#).

FOR RESEARCH USE ONLY. NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE.

Abbreviation Key:

mAb—Monoclonal Antibody **pAb**—Polyclonal Antibody **WB**—Western Blot **IF**—Immunofluorescence **ICC**—Immunocytochemistry
IHC—Immunohistochemistry **E**—ELISA **Hu**—Human **Mo**—Monkey **Do**—Dog **Rt**—Rat **Ms**—Mouse **Co**—Cow **Pi**—Pig **Ho**—Horse **Ch**—Chicken
Dr—D. rerio **Dm**—D. melanogaster **Sm**—S. mutans **Ce**—C. elegans **Sc**—S. cerevisiae **Sa**—S. aureus **Ec**—E. coli.