Microglial cells are the only brain cells to express Iba-1 (ionised calcium binding adapter molecule 1). Iba-1 is a 17kDa protein from the large EF hand family of proteins which contain the EF-hand motif. Iba-1 expression is up-regulated in activated microglia enabling differentiation between cells engaged in routine surveillance and those which are activated in response to injury. For this reason Iba-1, also known as Allograft Inflammatory factor 1 (AIF-1), is often used in immunohistochemistry as a marker for microglia. Enhanced Iba-1 expression has been observed in traumatic brain injury, ischemia and inflammation.

The Wako Anti-Iba-1 polyclonal antibodies (pAbs) for immunocytochemistry have been raised against a synthetic peptide corresponding to the carboxyl-terminus of Iba-1, which is conserved amongst human, rat and mouse Iba-1 protein sequences. These antibodies are specific to microglia and macrophages and do not cross react with neurons or astrocytes.

The original Iba-1 pAb (Cat. 019-19741) is widely referenced in scientific literature and well suited to double-immunostaining of brain tissue or cell cultures in combination with a monoclonal antibody specific to astrocytes, such as Glial Fibrillary Acid Protein (GFAP) (Figure 1).

Anti-Iba1 pAb is now available pre-conjugated, with biotin (016-26461) or red fluorochrome-635 (013-26471) (Figure 2). These convenient pre-conjugated antibodies eliminate the secondary antibody process, saving time but also reducing background staining.

### Ordering Information

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
<th>Pack Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>019-19741</td>
<td>Anti-Iba1 Rabbit IC</td>
<td>50µg</td>
</tr>
<tr>
<td>016-26461</td>
<td>Anti-Iba1 Biotin Conjugate</td>
<td>100µl</td>
</tr>
<tr>
<td>013-26471</td>
<td>Anti-Iba1 Red Fluorochrome 635 Conjugate</td>
<td>100µl</td>
</tr>
</tbody>
</table>

(Data provided by Sanagi, T, Ichinohe, N, and Kohsaka, S, National Centre of Neurology and Psychiatry, Japan)

(Data was provided by Department of Neurochemistry, National Institute of Neuroscience (Japan))

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**Figure 1:** Immuno-double staining of rat primary mixed cell culture: Green: Iba1 (019-19741) Red: Astrocytes reacting with anti-GFAP mAb

**Figure 2:** Cerebral cortex 7-wk Wistar rat, frozen section, 50µm. Antibody concentration 1:200 (A) Anti-Iba1 Biotin Conjugate (016-26461) & (B) Anti-Iba1 red fluorochrome-635 conjugate.

(Not for diagnostic use)
Wako have now added a mouse monoclonal antibody (mAb) to their range, ideal for protocols where antibodies for other targets of interest are raised in rabbit precluding the use of the original pAb. This primary antibody for immunochemistry applications offers high specificity and low background and has been validated in rat, mouse and marmoset tissues (Figure 3).

### Description
- **Antigen**: Synthetic peptide corresponding to C-terminus of Iba1
- **Presentation**: 50% glycerol/TBS 0.05% Sodium Azide
- **Clone**: NCNP24
- **Subclass**: Mouse IgG1
- **Species Reactivity**: Rat, Mouse, Marmoset

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<tr>
<th>Cat. No.</th>
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<th>Pack Size</th>
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<tbody>
<tr>
<td>016-26721</td>
<td>Anti-Iba1 mAb Clone NCNP24</td>
<td>50µl</td>
</tr>
</tbody>
</table>

For immunoblotting, Wako offer a rabbit pAb raised against the C-terminus of Iba1. The antiserum is purified by affinity chromatography and prepared in TBS without preservatives and stabilisers (Figure 4). Anti-Iba1 for western blot applications is specific to microglia and macrophages but does not cross-reactive with neurons or astrocytes.

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<tr>
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<th>Pack Size</th>
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<tbody>
<tr>
<td>016-20001</td>
<td>Anti-Iba1 Rabbit WB</td>
<td>50µg</td>
</tr>
</tbody>
</table>

### Selected references:
- Compensation of cATSCs-derived TGFβ1 and IL-10 expressions was effectively modulated atopic dermatitis. Jee, M.K., Im, Y.B., Choi, J.I., Kang, S.K. Cell Death Dis. (2013):4:e497

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Figure 3: Cerebral cortex from (A) 7-wk Wistar rat, frozen section, 50µm (B) 7-wk ICR mouse, frozen section, 50µm & (C) 7-wk marmoset, frozen section, 40µm. Primary antibody Anti-Iba1 mAb (016-26721) (1/500) with DAB staining.

(Data provided by Sanagi, T, Ichinohe, N, and Kohsaka, S. National Centre of Neurology and Psychiatry, Japan)

Figure 4: Western blot image using Anti-Iba1 (016-20001). Lane 1: 20ng Iba1. Lane 2: 10µg rat microglia, Lane 3: 10µg Rat neuron, Lane 4: 10µg adult rat brain.

(Data provided: Courtesy of Department of Neurochemistry, National Centre of Neurology and Psychiatry, Japan)