# Anti-Actin antibody [5J11] ab190301

## Overview

<table>
<thead>
<tr>
<th>Product name</th>
<th>Anti-Actin antibody [5J11]</th>
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</thead>
<tbody>
<tr>
<td>Description</td>
<td>Mouse monoclonal [5J11] to Actin</td>
</tr>
<tr>
<td>Host species</td>
<td>Mouse</td>
</tr>
<tr>
<td>Specificity</td>
<td>ab190301 binds to all six isotypes of mammalian actin.</td>
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<tr>
<td>Tested applications</td>
<td>Suitable for: ICC/IF, WB</td>
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<tr>
<td>Species reactivity</td>
<td>Reacts with: Mouse, Rat, Horse, Chicken, Cow, Human, Pig</td>
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<tr>
<td></td>
<td>Predicted to work with: Rabbit, Orangutan</td>
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<tr>
<td>Immunogen</td>
<td>Full length native protein (purified) corresponding to Cow Actin aa 3-377. derived from bovine brain preparation.</td>
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<tr>
<td></td>
<td>Sequence: DEDETTALVCDNGSGLVKAGFAGDDAPRAVFPSIVGR PRHQGVMGQK DSYVGDEAQSKRGLTLKYPHEHGIIINWDDEMKWHHT FYNELRVAPEE HPTLLEAPLNPANREKMTQIMFETFNVPAMYVAIAQ VLSLYASGRRTTG VLDSDGVTHNVVIPYEGYPALPHAIMRLDLAGRDLTDYL MKLTERGSF VTTAEREVMRDIEKLCYVALDFENEMATAASSSSLEK SYELPDGQVTI GNERFRCPETLFQPSFIGMESAGIHETTYNSIMKCDIDIR KDLYANNVMS GTTMYPGADRMQKEITALAPSTMKIIAPPKRVSY WIGGSILALSLS TFQQMWITKQHEYDEAGPSVHRKCF</td>
</tr>
<tr>
<td></td>
<td>Database link: P68138</td>
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</tbody>
</table>

## Positive control

WB: Rat and mouse brain lysate; NIH/3T3, HEK-293, HeLa and SH-SY5Y cell lysate. ICC/IF: HeLa cells.
Storage instructions

Storage buffer
Preservative: 0.03% Sodium azide
Constituents: 50% PBS, 50% Glycerol

Purity
Protein G purified

Clonality
Monoclonal

Clone number
5J11

Isotype
IgG1

Applications
Our Abpromise guarantee covers the use of ab190301 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICC/IF</td>
<td></td>
<td>1/500 - 1/1000.</td>
</tr>
<tr>
<td>WB</td>
<td></td>
<td>1/1000. Predicted molecular weight: 42 kDa.</td>
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</table>

Target

Function
Actins are highly conserved proteins that are involved in various types of cell motility and are ubiquitously expressed in all eukaryotic cells.

Involvement in disease
Defects in ACTA1 are the cause of nemaline myopathy type 3 (NEM3) [MIM:161800]. A form of nemaline myopathy. Nemaline myopathies are muscular disorders characterized by muscle weakness of varying severity and onset, and abnormal thread-or rod-like structures in muscle fibers on histologic examination. The phenotype at histological level is variable. Some patients present areas devoid of oxidative activity containing (cores) within myofibers. Core lesions are unstructured and poorly circumscribed.
Defects in ACTA1 are a cause of myopathy congenital with excess of thin myofilaments (MPCETM) [MIM:161800]. A congenital muscular disorder characterized at histological level by areas of sarcoplasm devoid of normal myofibrils and mitochondria, and replaced with dense masses of thin filaments. Central cores, rods, ragged red fibers, and necrosis are absent.
Defects in ACTA1 are a cause of congenital myopathy with fiber-type disproportion (CFTD) [MIM:255310]; also known as congenital fiber-type disproportion myopathy (CFTDM). CFTD is a genetically heterogeneous disorder in which there is relative hypotrophy of type 1 muscle fibers compared to type 2 fibers on skeletal muscle biopsy. However, these findings are not specific and can be found in many different myopathic and neuropathic conditions.

Sequence similarities
Belongs to the actin family.

Cellular localization
Cytoplasm > cytoskeleton.

Images
All lanes: Anti-Actin antibody [5J11] (ab190301) at 1/1000 dilution

Lane 1: Protein standard
Lane 2: Rat brain lysate
Lane 3: Mouse brain lysate
Lane 4: NIH/3T3 (mouse embryo fibroblast cell line) cell lysate
Lane 5: HEK-293 (human epithelial cell line from embryonic kidney) cell lysate
Lane 6: HeLa (human epithelial cell line from cervix adenocarcinoma) cell lysate
Lane 7: SH-SY5Y (human neuroblastoma cell line from bone marrow) cell lysate

Predicted band size: 42 kDa

The same blot was simultaneously probed with chicken pAb to UCHL-1, a marker of neuronal lineage cells (green).

Immunofluorescent analysis of HeLa cells labeling Actin with ab190301 at 1/1000 dilution (green) and chicken polyclonal antibody to Vimentin (red). The blue stain reveals DNA in the nuclei of these cells.

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