Anti-Alpha-synuclein antibody [syn211] ab80627

Overview

Product name: Anti-Alpha-synuclein antibody [syn211]
Description: Mouse monoclonal [syn211] to Alpha-synuclein
Host species: Mouse
Tested applications: Suitable for: Flow Cyt, IP, WB, IHC-P
Species reactivity: Reacts with: Human
Does not react with: Mouse, Rat
Immunogen: Recombinant full length protein corresponding to Human Alpha-synuclein. Human recombinant alpha Synuclein.
WB: Human brain tissue lysate.
General notes: This product was changed from ascites to tissue culture supernatant on 16/Jul/19. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.

This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com.

Properties

Form: Liquid
Storage buffer: Preservative: 0.02% Sodium azide
Constituents: PBS, 6.97% L-Arginine
Purity: Protein G purified
Purification notes: Purified from TCS.
Clonality: Monoclonal
Clone number: syn211
Isotype: IgG1

Applications
Our Abpromise guarantee covers the use of ab80627 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>Flow Cyt</td>
<td>ab170190</td>
<td>Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.</td>
</tr>
<tr>
<td>IP</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>WB</td>
<td></td>
<td>Use a concentration of 5 μg/ml. Predicted molecular weight: 14 kDa.</td>
</tr>
<tr>
<td>IHC-P</td>
<td></td>
<td>Use a concentration of 0.1 - 0.5 μg/ml. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.</td>
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</table>

**Target**

**Function**

May be involved in the regulation of dopamine release and transport. Induces fibrillization of microtubule-associated protein tau. Reduces neuronal responsiveness to various apoptotic stimuli, leading to a decreased caspase-3 activation.

**Tissue specificity**

Expressed principally in brain but is also expressed in low concentrations in all tissues examined except in liver. Concentrated in presynaptic nerve terminals.

**Involvement in disease**

Genetic alterations of SNCA resulting in aberrant polymerization into fibrils, are associated with several neurodegenerative diseases (synucleinopathies). SNCA fibrillar aggregates represent the major non A-beta component of Alzheimer disease amyloid plaque, and a major component of Lewy body inclusions. They are also found within Lewy body (LB)-like intraneuronal inclusions, glial inclusions and axonal spheroids in neurodegeneration with brain iron accumulation type 1. Parkinson disease 1  
Parkinson disease 4  
Dementia Lewy body

**Sequence similarities**

Belongs to the synuclein family.

**Domain**

The 'non A-beta component of Alzheimer disease amyloid plaque' domain (NAC domain) is involved in fibrils formation. The middle hydrophobic region forms the core of the filaments. The C-terminus may regulate aggregation and determine the diameter of the filaments.

**Post-translational modifications**

Phosphorylated, predominantly on serine residues. Phosphorylation by CK1 appears to occur on residues distinct from the residue phosphorylated by other kinases. Phosphorylation of Ser-129 is selective and extensive in synucleinopathy lesions. In vitro, phosphorylation at Ser-129 promoted insoluble fibril formation. Phosphorylated on Tyr-125 by a PTK2B-dependent pathway upon osmotic stress.  
Hallmark lesions of neurodegenerative synucleinopathies contain alpha-synuclein that is modified by nitration of tyrosine residues and possibly by dityrosine cross-linking to generated stable oligomers.  
Ubiquitinated. The predominant conjugate is the diubiquitinated form.  
Acetylation at Met-1 seems to be important for proper folding and native oligomeric structure.  

**Cellular localization**

Western blot - Anti-Alpha-synuclein antibody [syn211] (ab80627)

Anti-Alpha-synuclein antibody [syn211] (ab80627) at 5 µg/ml + Human brain tissue lysate at 20 µg

Performed under reducing conditions.

**Predicted band size:** 14 kDa

This blot was produced using a 4-12% Bis-tris under the MES buffer system. The gel was run at 200V for 35 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was blocked for an hour using 5% milk before ab80627 and ab181602 (Rabbit anti-GAPDH loading control) were incubated overnight at 4°C at a 5µg/ml concentration and 1/20000 dilution respectively. Antibody binding was detected using Goat anti-Mouse IgG H&L (IRDye® 800CW) preadsorbed (ab216772) and Goat anti-Rabbit IgG H&L (IRDye® 680RD) preadsorbed (ab216777) secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

IHC image of alpha-synuclein staining in a section of formalin-fixed paraffin-embedded normal human cerebral cortex* performed on a Leica BOND™ system using the standard Protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20mins. The section was then incubated with ab80627, 0.1µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.
IHC image of alpha-synuclein staining in a section of formalin-fixed paraffin-embedded human Alzheimer's braintr performed on a Leica BOND™ system using the standard Protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20mins. The section was then incubated with ab80627, 0.5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

Overlay histogram showing SH-SY5Y cells stained with ab80627 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab80627, 1µg/1x10^6 cells) for 30 min at 22ºC. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22ºC. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in SH-SY5Y cells fixed with 4% paraformaldehyde (10 min)permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.

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