Product datasheet

Anti-Alpha-synuclein antibody [4D6] ab1903

4 Abreviews  29 References  2 Images

Overview

Product name  Anti-Alpha-synuclein antibody [4D6]
Description  Mouse monoclonal [4D6] to Alpha-synuclein
Host species  Mouse
Tested applications  Suitable for: IHC-FoFr, WB, IHC-P, IHC-Fr, ELISA
                   Unsuitable for: Flow Cyt or ICC
Species reactivity  Reacts with: Mouse, Rat, Human
Immunogen  Recombinant full length protein corresponding to Human Alpha-synuclein.

Properties

Form  Liquid
Storage instructions  Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer  Constituent: PBS
Purity  Protein A purified
Purification notes  Ammonium sulfate precipitated and dialyzed tissue culture supernatant.
Clonality  Monoclonal
Clone number  4D6
Isotype  IgG1

Applications

Our Abpromise guarantee covers the use of ab1903 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>IHC-FoFr</td>
<td>1/300. PubMed: 17227870Perfuse with 4% paraformaldehyde with 0.4% picric acid in 0.16 M phosphate buffer and postfix.</td>
<td></td>
</tr>
<tr>
<td>WB</td>
<td>1/100 - 1/10000. Predicted molecular weight: 16 kDa.</td>
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**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**

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<tr>
<td>IHC-P</td>
<td>🌟🌟🌟🌟🌟</td>
<td>1/100 - 1/1000. Antigen retrieval is not essential but may optimise staining.</td>
</tr>
<tr>
<td>IHC-Fr</td>
<td></td>
<td>1/100 - 1/1000.</td>
</tr>
<tr>
<td>ELISA</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
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</table>

**Application notes**
Is unsuitable for Flow Cyt or ICC.
**Western blot - Anti-Alpha-synuclein antibody [4D6]**

- **All lanes**: Anti-Alpha-synuclein antibody [4D6] (ab1903) at 5 µg/ml

- **Lane 1**: A549 (Human lung adenocarcinoma epithelial cell line) Whole Cell Lysate

- **Lane 2**: SK N BE (Human neuroblastoma) Whole Cell Lysate

- **Lane 3**: SK N SH (Human neuroblastoma) Whole Cell Lysate

Lysates/proteins at 10 µg per lane.

**Secondary**

- **All lanes**: Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

**Predicted band size**: 16 kDa

**Observed band size**: 16 kDa

**Additional bands at**: 18 kDa (possible post-translational modification), 80 kDa (possible post-translational modification)

**Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Alpha-synuclein antibody [4D6]**

IHC-P using ab1903 showing Lewy bodies in a substantia nigra neuron (x400)

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