**Product datasheet**

**Anti-Alpha-synuclein antibody [4D6] ab1903**

- **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></td>
<td>1/300. PubMed: 17227870Perfuse with 4% paraformaldehyde with 0.4% picric acid in 0.16 M phosphate buffer and postfix.</td>
</tr>
<tr>
<td>WB</td>
<td></td>
<td>1/100 - 1/10000. Predicted molecular weight: 16 kDa.</td>
</tr>
</tbody>
</table>
### 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

### Application notes
Is unsuitable for Flow Cyt or ICC.

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<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>IHC-P</td>
<td><strong>3</strong></td>
<td>1/100 - 1/1000. Antigen retrieval is not essential but may optimise staining.</td>
</tr>
<tr>
<td>IHC-Fr</td>
<td><strong>3</strong></td>
<td>1/100 - 1/1000.</td>
</tr>
<tr>
<td>ELISA</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
</tbody>
</table>

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**Target**

- **Function**
- **Tissue specificity**
- **Involvement in disease**
- **Sequence similarities**
- **Domain**
- **Post-translational modifications**
- **Cellular localization**

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**Images**
α-Synuclein (α-syn) and S129-phosphorylated α-synuclein protein levels in SNCA/SNCA mouse brains after 12 days of treatment with 4mM ambroxol (Amb). (A) Western blotting for α-synuclein (using ab1903) and serine 129 (S129)-phosphorylated α-synuclein protein (using ab51253) in the brainstem (example blots shown).

**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] (ab1903)

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

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