**Overview**

**Product name**: Anti-Alpha-synuclein (phospho S129) antibody

**Description**: Rabbit polyclonal to Alpha-synuclein (phospho S129)

**Host species**: Rabbit

**Specificity**: Detects endogenous levels of Synuclein only when phosphorylated at serine 129. Due to 69% sequence homology ab59264 might react with Beta synuclein.

**Tested applications**: Suitable for: IHC-P, WB

**Species reactivity**: Reacts with: Mouse, Human

**Immunogen**: Synthetic peptide corresponding to Human Alpha-synuclein (phospho S129). Synthetic phosphopeptide derived from Human Synuclein around the phosphorylation site of serine 129 (M-P-SP-E-E).

**Database link**: P37840

**Positive control**: Human and mouse brain.

**General notes**: The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.

If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

**Properties**

**Form**: Liquid

**Storage instructions**: Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.

**Storage buffer**: pH: 7
Preservative: 0.02% Sodium azide
Constituents: PBS, 50% Glycerol, 0.87% Sodium chloride

Without Mg+2 and Ca+2

**Purity**: Immunogen affinity purified

**Clonality**: Polyclonal
Isotype  
IgG

Applications

The Abpromise guarantee  
Our Abpromise guarantee covers the use of ab59264 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

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| IHC-P       |           | 1/50 - 1/100.  
Antigen retrieval: Microwave method - put the slice into 10 mmol/L citrate buffer (pH 6.0), microwave high temperature for 5 minutes, and then medium temperature for 15 minutes.  
Primary antibody incubation: 1 hour at 37°C  
Secondary antibody: Poly-HRP-Anti Mouse/Rabbit IgG, 50 µL for 30 minutes. |
| WB          | ⭐⭐⭐⭐⭐ (3) | 1/500 - 1/1000.  
Please see WB protocol details in the image legend. |

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**

**Images**

**Western blot - Anti-Alpha-synuclein (phospho S129) antibody (ab59264)**

- **All lanes**: Anti-Alpha-synuclein (phospho S129) antibody (ab59264) at 1/500 dilution
- **Lane 1**: Mouse brain whole cell lysates
- **Lane 2**: Mouse brain whole cell lysates with immunogen phosphopeptide

Lysates/proteins at 40 µg per lane.

Blocking buffer: 5% (w/v) BSA in TBST.

Primary antibody dilution buffer: 5%(w/v)BSA,0.1%(v/v), Tween-20 in TBST.

Secondary antibody dilution buffer: 5%(w/v)BSA,0.1%(v/v),Tween-20 in TBST.

12% SDS gel. Nitrocellulose membrane.

Blocking: Room temperature for 2 hours or overnight at 4°C. Then wash 3x for 5 minutes with 0.05% blocking buffer.

Primary antibody incubation: diluted in TBST at 1/500. Incubate overnight with 4 degrees shaking. Then, in 0.05% TBST, wash membrane 3-4 times for 10min.

Secondary antibody incubation: diluted in TBST at 1/2000. Incubate 37°C for 1 hour. Then, in 0.05% TBST, wash membrane 3-4 times for 10min.

ECL development.

Immunohistochemical analysis of paraffin-embedded human brain tissue using ab59264 at a dilution of 1/50-1/100. Left hand image - without immunising peptide; right hand image - with immunising peptide.
Western blot - Anti-Alpha-synuclein (phospho S129) antibody (ab59264) at 1/1000 dilution

All lanes: Anti-Alpha-synuclein (phospho S129) antibody (ab59264) at 1/1000 dilution

Lanes 1-3: Whole tissue lysate prepared from young transgenic mouse overexpressing human alpha-synuclein

Lanes 4-6: Whole tissue lysate prepared from old transgenic mouse overexpressing human alpha-synuclein

Lane 7: Whole tissue lysate prepared from KO mouse

Lysates/proteins at 50 µg per lane.

Secondary

All lanes: Goat anti-rabbit Ig (H+L) HRP at 1/1000 dilution

Developed using the ECL technique.

Observed band size: 18,19 kDa

Additional bands at: 60 kDa, 80 kDa. We are unsure as to the identity of these extra bands.

Exposure time: 5 minutes

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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