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: ICC/IF, IHC-P, ELISA, IHC-FoFr, WB, IHC-Fr

Species reactivity: Reacts with: Mouse, Human

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

Positive control: Human brain.

Properties:

Form: Liquid

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

Storage buffer: pH: 7.40
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:

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.

Overview

Anti-Alpha-synuclein (phospho S129) antibody ab59264

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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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Images
Locally administered rotenone induces alpha-synuclein phosphorylation, accumulation and aggregation with gliosis in ENS ganglia

Mouse ganglia tissue stained for Alpha-synuclein (phospho S129) using ab59264 at 1/50 dilution in immunohistochemical analysis. Section from an untreated mouse is shown in Panel I. Section from a rotenone-treated mouse is shown in Panel J. (After Figure 1 of Pan-Motojo et al)

**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

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

why is the actual band size different from the predicted?

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

Exposure time: 5 minutes

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