abcam

Product datasheet

Anti-Alpha-synuclein (phospho Y133) antibody ab51104

1 References 2 Images

Overview

Product name	Anti-Alpha-synuclein (phospho Y133) antibody
Description	Rabbit polyclonal to Alpha-synuclein (phospho Y133)
Host species	Rabbit
Specificity	ab51104 detects endogenous levels of alpha Synuclein only when phosphorylated at tyrosine 133.
Tested applications	**Suitable for:** WB, IHC-P
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse, Rat
Immunogen	Synthetic peptide corresponding to Human Alpha-synuclein aa 50-150 (phospho Y133). Database link: **P37840**
Positive control	Extracts from 293 cells treated with Etoposide (25µM, 60min)
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: 7.40 Preservative: 0.02% Sodium azide Constituents: 0.87% Sodium chloride, 50% Glycerol (glycerin, glycerine), PBS Without Mg+2 and Ca+2
Purity	Immunogen affinity purified
Purification notes	ab51104 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-

specific phosphopeptide. The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.

Clonality Polyclonal

Isotype IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab51104 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		1/500 - 1/1000. Predicted molecular weight: 14 kDa.
IHC-P		Use a concentration of 1 µg/ml. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

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.

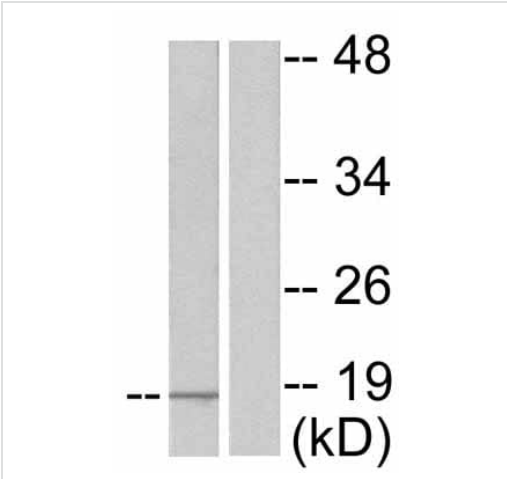
Domain The 'non A-beta component of Alzheimer disease amyloid plaque' domain (NAC domain) is involved in fibrils formation. The middle hydrophobic region forms the core of the filaments. The C-terminus may regulate aggregation and determine the diameter of the filaments.

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 Cytoplasm, cytosol. Membrane. Nucleus. Cell junction, synapse. Secreted. Membrane-bound in

dopaminergic neurons.

Images



Western blot - Anti-Alpha-synuclein (phospho Y133) antibody (ab51104)

All lanes : Anti-Alpha-synuclein (phospho Y133) antibody (ab51104) at 1/500 dilution

Lane 1 : 293 cell extract treated with Etoposide (25µM, 60min)
Lane 2 : 293 cell extract treated with Etoposide (25µM, 60min) and immunizing peptide

Predicted band size: 14 kDa

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Alpha-synuclein (phospho Y133) antibody (ab51104)

Ab51104 staining Human dentate nucleus. Staining is localised to the cytoplasm.
Left panel: with primary antibody at 1 ug/ml. Right panel: isotype control.
Sections were stained using an automated system DAKO Autostainer Plus , at room temperature. Sections were rehydrated and antigen retrieved with the DAKO 3-in-1 antigen retrieval buffer citrate pH 6.0 in a DAKO PT Link. Slides were peroxidase blocked in 3% H2O2 in methanol for 10 minutes. They were then blocked with Dako Protein block for 10 minutes (containing casein 0.25% in PBS) then incubated with primary antibody for 20 minutes and detected with Dako Envision Flex amplification kit for 30 minutes. Colorimetric detection was completed with diaminobenzidine for 5 minutes. Slides were counterstained with Haematoxylin and coverslipped under DePeX. Please note that for manual staining we recommend to optimize the primary antibody concentration and incubation time (overnight incubation), and amplification may be required.

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