BACKGROUND

Synucleins are small, soluble proteins expressed primarily in neural tissue and in certain tumors. The family includes three known proteins: alpha-Synuclein, beta-Synuclein, and gamma-Synuclein. All Synucleins have in common a highly conserved alpha-helical lipid-binding motif with similarity to the class-A2 lipid-binding domains of the exchangeable apolipoproteins. Synuclein family members are not found outside vertebrates, although they have some conserved structural similarity to the late-embryo-abundant plant proteins. The alpha- and beta-Synuclein proteins are found primarily in brain tissue, where they are seen mainly in presynaptic terminals. The gamma-Synuclein protein is found primarily in the peripheral nervous system and retina, but its expression in breast tumors is a marker for tumor progression. Normal cellular functions have not been determined for any of the Synuclein proteins, although some data suggest a role in the regulation of membrane stability and/or turnover. Mutations in alpha-Synuclein are associated with rare familial cases of early-onset Parkinson’s disease, and the protein accumulates abnormally in Parkinson’s disease, Alzheimer’s disease, and several other neurodegenerative illnesses. Phosphorylation of alpha-Synuclein at Ser 129 promoted fibril formation in vitro and these results highlight the importance of phosphorylation of filamentous proteins in the pathogenesis of neurodegenerative disorders.

References:

TECHNICAL INFORMATION

Source:
Phospho-alpha-Synuclein (Ser129) Antibody is a rabbit antibody raised against a short peptide from human alpha-Synuclein sequence surrounding and containing phospho-Ser129.

Specificity and Sensitivity:
This antibody detects endogenous phosphorylated alpha-Synuclein (Ser129) proteins without cross-reactivity with other family members.

Storage Buffer: Rabbit IgG in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.

Storage:
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

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<tr>
<th>Application</th>
<th>Dilution</th>
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<tbody>
<tr>
<td>WB</td>
<td>1:500-1:1000</td>
</tr>
<tr>
<td>IP</td>
<td>n/d</td>
</tr>
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<tr>
<td>ELISA</td>
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*Optimal dilutions must be determined by end user.

QUALITY CONTROL DATA

Top: Western blot analysis of extracts from Mouse brain.
Bottom: ELISA for Immunogen Phosphopeptide (left) and Non-Phosphopeptide (right).