

# Affinity Purified Rabbit Anti-Phospho-Synuclein-α (S129) Certificate of Analysis

#### **ORDERING INFORMATION**

Catalog Number: PPS091

Lot Number: 1752363

Size: 100 µL (sufficient for 10 mini-blots)

Storage: ≤ -20° C

Specificity: Human, mouse, rat, bovine, canine, and non-human primate Synuclein-α phosphorylated at S129

Immunogen: Phosphopeptide corresponding to amino acid residues surrounding Synuclein-α phosphorylated at S129

Ig Type: rabbit IgG

Applications: Western blot



Western Blot of rat cortex lysate showing specific labeling of the ~15 kDa Synuclein- $\alpha$ protein phosphorylated at S129. Immunolabeling is blocked by the phosphopeptide (peptide) used as antigen but not by the corresponding dephosphopeptide (not shown).

## Description

Synuclein- $\alpha$  is a 14 kDa member of the synuclein family. It is found in both the neuron nucleus and the cytosol of presynaptic nerve terminals in the brain. Synuclein- $\alpha$  is 140 amino acids in length and runs anomalously at 19 kDa in SDS-page. It contains three domains; an N-terminal lipid-binding domain, a central amyloid-binding region, and a C-terminal acidic tail. The N-terminal area (aa 1 - 100) is involved with lipid (membrane) and protein binding. The C-terminus may be regulatory. There is a NAC (non-Ab component of AD amyloid) segment between aa 61 - 95. This has been thought to mediate synuclein- $\alpha$  filament formation and microtubial stabilization. Whether it exists as a stand-alone normal cleavage product of synuclein- $\alpha$  is unclear. Synuclein- $\alpha$  is phosphorylated on multiple sites. S129 undergoes constitutive phosphorylation and dephosphorylation. When phosphorylated, filament formation (and perhaps oligomerization) is promoted. Uncontrolled filament/fibril formation is suggested to be involved in Parkinson's disease Lewy body formation. Tyrosine phosphorylation also occurs at Y125. Synuclein- $\alpha$  activity is decreased and PLD activity is increased.

#### Preparation

Prepared from rabbit serum by affinity purification via sequential chromatography on phospho- and dephosphopeptide affinity columns.

## Formulation

100 µL in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg/mL BSA, and 50% glycerol.

## Storage

For long-term storage,  $\leq$  -20° C is recommended. Product is stable at  $\leq$  -20° C for at least 1 year.

#### Specificity

Specific for the ~15 kDa Synuclein- $\alpha$  protein phosphorylated at S129. Immunolabeling is blocked by the phosphopeptide used as antigen but not by the corresponding dephosphopeptide.

## **Applications**

Western blot - 1:1000

Optimal dilutions should be determined by each laboratory for each application.

#### References

- 1. da Costa, C.A. (2003) Curr. Mol. Med. 3:17.
- 2. Ueda, K. et al. (1993) Proc. Natl. Acad. Sci. USA 90:11282.
- 3. Okochi, M. et al. (2000) J. Biol. Chem. 275:390.
- 4. Goers, J. et al. (2003) Biochemistry 42:8465.
- 5. Ahn, B-H. et al. (2002) J. Biol. Chem. 277:12334.

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