

# Affinity Purified Rabbit Anti-Phospho-Synuclein- $\alpha$ (S129) Certificate of Analysis

## ORDERING INFORMATION

**Catalog Number:** PPS091

**Lot Number:** 1472640

**Size:** 100  $\mu$ L (sufficient for 10 mini-blot)

**Storage:**  $\leq -20^{\circ}$  C

**Specificity:** Human, mouse, rat, bovine, canine, and non-human primate  
Synuclein- $\alpha$  phosphorylated at S129

**Immunogen:** Phosphopeptide corresponding to amino acid residues surrounding Synuclein- $\alpha$  phosphorylated at S129

**Ig Type:** rabbit IgG

**Applications:** Western blot

## 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 microtubular 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- $\alpha$  is known to bind to, and inhibit, PLD-1 and -2. When phosphorylated 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  $\mu$ L in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100  $\mu$ g/mL BSA, and 50% glycerol.

## Storage

For long-term storage,  $\leq -20^{\circ}$  C is recommended. Product is stable at  $\leq -20^{\circ}$  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

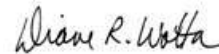
**Western blot** - 1:1000

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

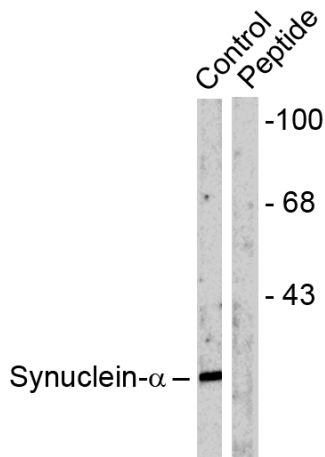
## References

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.

Diane Wotta



Quality & Regulatory Affairs



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).

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