

p- α -synuclein (Tyr 133): sc-293092

BACKGROUND

Synucleins are a novel class of GRK substrates. Synucleins (α , β , γ and synoretin) are highly expressed in brain, but are also found in numerous other tissues. The synuclein family members, including α -synuclein, are speculated to be involved in synaptic regulation and neuronal plasticity. α -synuclein, also designated NACP, PD1, PARK1 and SNCA, is localized to neuronal cell bodies and synapses and has been implicated in the pathogenesis of several neuro-degenerative disorders including Alzheimer's and Parkinson's diseases. α -synuclein is phosphorylated on serine residues Ser 129 and Ser 87. In addition, α -synuclein exists in a glycosylated form. The human α -synuclein gene maps to chromosome 4q21.

REFERENCES

1. Ueda, K., Fukushima, H., Masliah, E., Xia, Y., Iwai, A., Yoshimoto, M., Otero, D.A., Kondo, J., Ihara, Y. and Saitoh, T. 1993. Molecular cloning of cDNA encoding an unrecognized component of amyloid in Alzheimer disease. *Proc. Natl. Acad. Sci. USA* 90: 11282-11286.
2. Jakes, R., Spillantini, M. and Goedert, M. 1994. Identification of two distinct synucleins from human brain. *FEBS Lett.* 345: 27-32.
3. Iwai, A., Masliah, E., Yoshimoto, M., Ge, N., Flanagan, L., de Silva, H.A., Kittel, A. and Saitoh, T. 1995. The precursor protein of non-A β component of Alzheimer's disease amyloid is a presynaptic protein of the central nervous system. *Neuron* 14: 467-475.
4. Polymeropoulos, M.H., Lavedan, C., Leroy, E., Ide, S.E., Dehejia, A., Dutra, A., Pike, B., Root, H., Rubenstein, J., Boyer, R., Stenroos, E.S., Chandra-sekhappara, S., Athanassiadou, A., Papapetropoulos, T., Johnson, W.G., Lazzarini, A.M., Duvoisin, R.C., Di Iorio, G., Golbe, L.I. and Nussbaum, R.L. 1997. Mutation in the α -synuclein gene identified in families with Parkinson's disease. *Science* 276: 2045-2047.
5. Pronin, A.N., Morris, A.J., Surguchov, A. and Benovic, J.L. 2000. Synucleins are a novel class of substrates for G protein-coupled receptor kinases. *J. Biol. Chem.* 275: 26515-26522.
6. Okochi, M., Walter, J., Koyama, A., Nakajo, S., Baba, M., Iwatsubo, T., Meijer, L., Kahle, P.J. and Haass, C. 2000. Constitutive phosphorylation of the Parkinson's disease associated α -synuclein. *J. Biol. Chem.* 275: 390-397.

CHROMOSOMAL LOCATION

Genetic locus: SNCA (human) mapping to 4q22.1; Snca (mouse) mapping to 6 B3.

SOURCE

p- α -synuclein (Tyr 133) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Tyr 133 of α -synuclein of human origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p- α -synuclein (Tyr 133) is recommended for detection of Tyr 133 phosphorylated α -synuclein of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for α -synuclein siRNA (h): sc-29619, α -synuclein siRNA (m): sc-42286, α -synuclein shRNA Plasmid (h): sc-29619-SH, α -synuclein shRNA Plasmid (m): sc-42286-SH, α -synuclein shRNA (h) Lentiviral Particles: sc-29619-V and α -synuclein shRNA (m) Lentiviral Particles: sc-42286-V.

Molecular Weight of p- α -synuclein: 14 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.