SANTA CRUZ BIOTECHNOLOGY, INC.

p-Dok-7 (Tyr 405): sc-68692

BACKGROUND

The downstream of kinase family (Dok1-7) are members of a class of "docking" proteins that include the tyrosine kinase substrates IRS-1 and Cas, which contain multiple tyrosine residues and putative SH2 binding sites. Based on their similarities, the Dok family of proteins can be divided into three subgroups: Dok-1/2/3, Dok-4/5/6 and Dok-7. Through its interaction with muscle-specific receptor kinase (MuSK), Dok-7 is crucial for neuromuscular synaptogenesis and for MuSK activation. Mice lacking Dok-7 do not form neuromuscular synapses nor acetylcholine receptor clusters. Mutations in the Dok-7 gene can cause congenital myasthenic syndromes (CMA) – recessively inherited disorders characterized by muscle weakness.

REFERENCES

1. Okada, K., et al. 2006. The muscle protein Dok-7 is essential for neuromuscular synaptogenesis. Science 312: 1802-1805.
2. Beeson, D., et al. 2006. Dok-7 mutations underlie a neuromuscular junction synaptopathy. Science 313: 1975-1978.
3. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610285. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Müller, J.S., et al. 2007. Phenotypical spectrum of Dok-7 mutations in congenital myasthenic syndromes. Brain 130: 1497-1506.
5. Palace, J., et al. 2007. Clinical features of the Dok-7 neuromuscular junction synaptopathy. Brain 130: 1507-1515.
6. Anderson, J.A., et al. 2007. Variable phenotypes associated with mutations in Dok-7. Muscle Nerve 37: 448-456.
7. Hamuro, J., et al. 2008. Mutations causing Dok-7 congenital myasthenia ablate functional motifs in Dok-7. J. Biol. Chem. 283: 5518-5524.
8. SWISS-PROT/TrEMBL (Q18PE1). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

CHROMOSOMAL LOCATION

Genetic locus: DOK7 (human) mapping to 4p16.3; Dok7 (mouse) mapping to 5 B2.

SOURCE

p-Dok-7 (Tyr 405) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Tyr 405 phosphorylated Dok-7 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-68692 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

p-Dok-7 (Tyr 405) is recommended for detection of Tyr 405 phosphorylated Dok-7 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-Dok-7 (Tyr 405) is also recommended for detection of correspondingly phosphorylated Dok-7 in additional species, including canine and bovine.

Suitable for use as control antibody for Dok-7 siRNA (h): sc-61852, Dok-7 siRNA (m): sc-61853, Dok-7 shRNA Plasmid (h): sc-61852-SH, Dok-7 shRNA Plasmid (m): sc-61853-SH, Dok-7 shRNA (h) Lentiviral Particles: sc-61852-V and Dok-7 shRNA (m) Lentiviral Particles: sc-61853-V.

Molecular Weight of p-Dok-7: 55 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), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) 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.

SELECT PRODUCT CITATIONS

1. Hallock, P.T., et al. 2010. Dok-7 regulates neuromuscular synapse formation by recruiting Crk and Crk-L. Genes Dev. 24: 2451-2461.

STORAGE

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

PROTOCOLS

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