

# Dok-7 (P-19): sc-55168

## BACKGROUND

The downstream of kinase family (Dok-1-7) proteins 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 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 the Dok-7 protein 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

- Okada, K., Inoue, A., Okada, M., Murata, Y., Kakuta, S., Jigami, T., Kubo, S., Shiraiishi, H., Eguchi, K., Motomura, M., Akiyama, T., Iwakura, Y., Higuchi, O. and Yamanashi, Y. 2006. The muscle protein Dok-7 is essential for neuromuscular synaptogenesis. *Science* 312: 1802-1805.
- Beeson, D., Higuchi, O., Palace, J., Cossins, J., Spearman, H., Maxwell, S., Newsom-Davis, J., Burke, G., Fawcett, P., Motomura, M., Müller, J.S., Lochmüller, H., Slater, C., Vincent, A. and Yamanashi, Y. 2006. Dok-7 mutations underlie a neuromuscular junction synaptopathy. *Science* 313: 1975-1978.
- 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/>
- Müller, J.S., Herczegfalvi, A., Vilchez, J.J., Colomer, J., Bachinski, L.L., Mihaylova, V., Santos, M., Schara, U., Deschauer, M., Shevell, M., Poulin, C., Dias, A., Soudo, A., Hietala, M., Aärmaa, T., Krahe, R., Karcagi, V., Huebner, A., Beeson, D., Abicht, A. and Lochmüller, H. 2007. Phenotypical spectrum of Dok-7 mutations in congenital myasthenic syndromes. *Brain* 130: 1497-1506.

## CHROMOSOMAL LOCATION

Genetic locus: DOK7 (human) mapping to 4p16.3.

## SOURCE

Dok-7 (P-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of 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-55168 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

Dok-7 (P-19) is recommended for detection of Dok-7 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

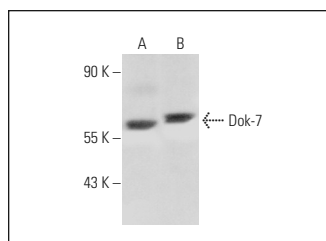
Molecular Weight of Dok-7: 55 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

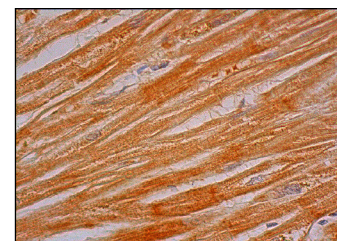
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



Dok-7 (P-19): sc-55168. Western blot analysis of Dok-7 expression in Jurkat (A) and K-562 (B) whole cell lysates.



Dok-7 (P-19): sc-55168. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

## RESEARCH USE

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

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Try **Dok-7 (A-7): sc-390856**, our highly recommended monoclonal alternative to Dok-7 (P-19).