

# Dok-7 (A-7): sc-390856

## 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

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- Okada, K., Inoue, A., Okada, M., Murata, Y., Kakuta, S., Jigami, T., Kubo, S., Shiraishi, 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., Muller, J.S., Lochmuller, H., Slater, C., Vincent, A. and Yamanashi, Y. 2006. Dok-7 mutations underlie a neuromuscular junction synaptopathy. *Science* 313: 1975-1978.

## CHROMOSOMAL LOCATION

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

## SOURCE

Dok-7 (A-7) is a mouse monoclonal antibody raised against amino acids 214-498 mapping within an internal region of Dok-7 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Dok-7 (A-7) is available conjugated to agarose (sc-390856 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390856 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390856 PE), fluorescein (sc-390856 FITC), Alexa Fluor® 488 (sc-390856 AF488), Alexa Fluor® 546 (sc-390856 AF546), Alexa Fluor® 594 (sc-390856 AF594) or Alexa Fluor® 647 (sc-390856 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390856 AF680) or Alexa Fluor® 790 (sc-390856 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Dok-7 (A-7) is recommended for detection of Dok-7 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) 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 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.

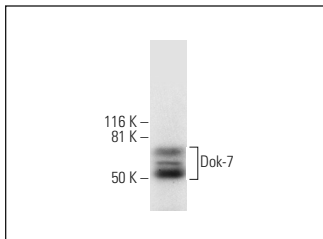
Molecular Weight of Dok-7: 55 kDa.

Positive Controls: human skeletal muscle extract: sc-363776 or mouse brain extract: sc-2253.

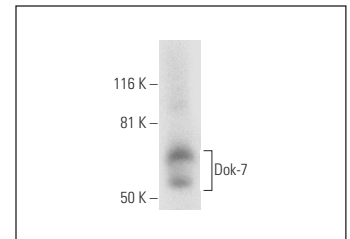
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Dok-7 (A-7): sc-390856. Western blot analysis of Dok-7 expression in human skeletal muscle tissue extract.



Dok-7 (A-7): sc-390856. Western blot analysis of Dok-7 expression in mouse brain tissue extract.

## SELECT PRODUCT CITATIONS

- Kaifer, K.A., Villalón, E., O'Brien, B.S., Sison, S.L., Smith, C.E., Simon, M.E., Marquez, J., O'Day, S., Hopkins, A.E., Neff, R., Rindt, H., Ebert, A.D. and Lorson, C.L. 2019. AAV9-mediated delivery of miR-23a reduces disease severity in Smn2B/-SMA model mice. *Hum. Mol. Genet.* 28: 3199-3210.

## STORAGE

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

## RESEARCH USE

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