

Myosin VIIa (C-5): sc-74516

BACKGROUND

Myosins are molecular motors that move along filamentous Actin and influence cellular movements such as phagocytosis. There are seven classes of myosins in vertebrates, including Myosin II, and six unconventional Myosin classes, designated I, V, VI, VII, IX and X. Myosin VIIa is a plus end-directed motor that influences cilia formation and cell adhesion. Mutations in the human Myosin VIIa gene correlate with Usher syndrome, a disease characterized by congenital sensorineural deafness, vestibular dysfunction and retinitis pigmentosa.

CHROMOSOMAL LOCATION

Genetic locus: MYO7A (human) mapping to 11q13.5; Myo7a (mouse) mapping to 7 E2.

SOURCE

Myosin VIIa (C-5) is a mouse monoclonal antibody raised against amino acids 11-70 mapping near the N-terminus of Myosin VIIa of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Myosin VIIa (C-5) is available conjugated to agarose (sc-74516 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-74516 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74516 PE), fluorescein (sc-74516 FITC), Alexa Fluor® 488 (sc-74516 AF488), Alexa Fluor® 546 (sc-74516 AF546), Alexa Fluor® 594 (sc-74516 AF594) or Alexa Fluor® 647 (sc-74516 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-74516 AF680) or Alexa Fluor® 790 (sc-74516 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Myosin VIIa (C-5) is recommended for detection of Myosin VIIa isoforms 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), 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 Myosin VIIa siRNA (h): sc-43223, Myosin VIIa siRNA (m): sc-43224, Myosin VIIa shRNA Plasmid (h): sc-43223-SH, Myosin VIIa shRNA Plasmid (m): sc-43224-SH, Myosin VIIa shRNA (h) Lentiviral Particles: sc-43223-V and Myosin VIIa shRNA (m) Lentiviral Particles: sc-43224-V.

Molecular Weight of Myosin VIIa: 203 kDa.

Positive Controls: Y79 nuclear extract: sc-2126, mouse testis extract: sc-2405 or Y79 cell lysate: sc-2240.

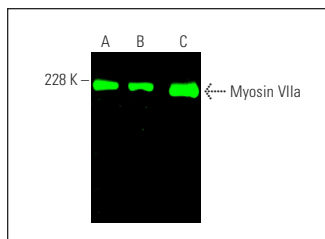
STORAGE

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

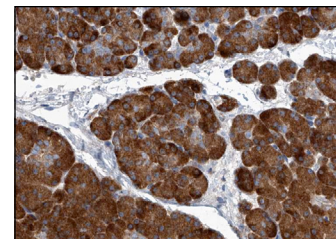
RESEARCH USE

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

DATA



Myosin VIIa (C-5): sc-74516. Near-infrared western blot analysis of Myosin VIIa expression in Y79 whole cell lysate (A), Y79 nuclear extract (B) and mouse testis tissue extract (C). Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



Myosin VIIa (C-5): sc-74516. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of exocrine glandular cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

- Lu, Y.C., et al. 2011. Establishment of a knock-in mouse model with the SLC26A4 c.919-2A>G mutation and characterization of its pathology. *PLoS ONE* 6: e22150.
- Rathinam, R., et al. 2018. CRISPR/Cas9-mediated knockout of LIM-domain only four retards organ of Corti cell growth. *J. Cell. Biochem.* 119: 3545-3553.
- Wen, Q., et al. 2019. Myosin VIIa supports spermatid/organelle transport and cell adhesion during spermatogenesis in the rat testis. *Endocrinology* 160: 484-503.
- Ono, K., et al. 2020. Retinoic acid degradation shapes zonal development of vestibular organs and sensitivity to transient linear accelerations. *Nat. Commun.* 11: 63.
- Wu, S., et al. 2021. AKAP9 supports spermatogenesis through its effects on microtubule and actin cytoskeletons in the rat testis. *FASEB J.* 35: e21925.
- Chen, D., et al. 2022. Sox2 overexpression alleviates noise-induced hearing loss by inhibiting inflammation-related hair cell apoptosis. *J. Neuroinflammation* 19: 59.
- Moore, S.T., et al. 2023. Generating high-fidelity cochlear organoids from human pluripotent stem cells. *Cell Stem Cell* 30: 950-961.e7.
- Zheng, J., et al. 2024. Verification of outer hair cell motor protein, prestin, as a serological biomarker for mouse cochlear damage. *Int. J. Mol. Sci.* 25: 7285.

PROTOCOLS

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

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