SANTA CRUZ BIOTECHNOLOGY, INC.

Muskelin (C-12): sc-398956

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Muskelin, also designated MKLN1 or TWA2, is a 735 amino acid nuclear and cytoplasmic protein that mediates cytoskeletal responses and cell spreading to Thrombospondin 1, an extracellular matrix glycoprotein. Forming a CTLH complex with RMND5A, Ran BP-M and TWA1, Muskelin exists as two alternatively spliced isoforms. Muskelin is implicated as an isoform-specific anchoring protein for the prostaglandin EP3 receptor, and contains one LisH domain, a CTLH domain, six kelch repeats and an N-terminal discoidin-like domain through which it self-associates via a head-to-tail mechanism. Human and mouse Muskelin share 98% amino acid seqeuence homology and are encoded by genes located on chromosomes 7q32.3 and 6 A3.3, respectively.

CHROMOSOMAL LOCATION

Genetic locus: MKLN1 (human) mapping to 7q32.3; Mkln1 (mouse) mapping to 6 A3.3.

SOURCE

Muskelin (C-12) is a mouse monoclonal antibody raised against amino acids 491-735 mapping at the C-terminus of Muskelin of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Muskelin (C-12) is available conjugated to agarose (sc-398956 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398956 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398956 PE), fluorescein (sc-398956 FITC), Alexa Fluor® 488 (sc-398956 AF488), Alexa Fluor® 546 (sc-398956 AF546), Alexa Fluor® 594 (sc-398956 AF594) or Alexa Fluor® 647 (sc-398956 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398956 AF680) or Alexa Fluor® 790 (sc-398956 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Muskelin (C-12) is recommended for detection of Muskelin 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 Muskelin siRNA (h): sc-89673, Muskelin siRNA (m): sc-149721, Muskelin shRNA Plasmid (h): sc-89673-SH, Muskelin shRNA Plasmid (m): sc-149721-SH, Muskelin shRNA (h) Lentiviral Particles: sc-89673-V and Muskelin shRNA (m) Lentiviral Particles: sc-149721-V.

Molecular Weight of Muskelin: 82 kDa.

Positive Controls: NCI-H460 whole cell lysate: sc-364235, Jurkat whole cell lysate: sc-2204 or Y79 cell lysate: sc-2240.

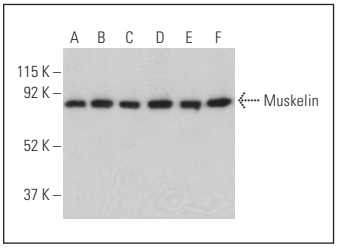
RESEARCH USE

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

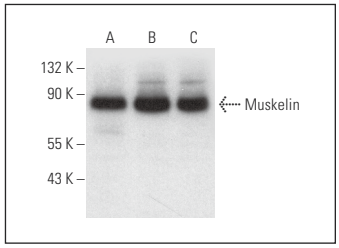
STORAGE

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

DATA



Muskelin (C-12): sc-398956. Western blot analysis of Muskelin expression in NCI-H460 (**A**), Jurkat (**B**), Y79 (**C**), U-87 MG (**D**), U-698-M (**E**) and K-562 (**F**) whole cell lysates. Detection reagent used: m-IgG_1 BP-HRP: sc-525408.



Muskelin (C-12): sc-398956. Western blot analysis of Muskelin expression in NCI-H460 (**A**), Jurkat (**B**) and Y79 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Salemi, L.M., et al. 2017. Inhibition of HDAC6 activity through interaction with RanBPM and its associated CTLH complex. BMC Cancer 17: 460.
2. Heisler, F.F., et al. 2018. Muskelin coordinates PrP^C lysosome versus exosome targeting and impacts prion disease progression. Neuron 99: 1155-1169.e9.
3. Maitland, M.E.R., et al. 2019. The mammalian CTLH complex is an E3 ubiquitin ligase that targets its subunit Muskelin for degradation. Sci. Rep. 9: 9864.
4. Davies, J.P., et al. 2020. Comparative multiplexed interactomics of SARS-CoV-2 and homologous coronavirus nonstructural proteins identifies unique and shared host-cell dependencies. ACS Infect. Dis. 6: 3174-3189.
5. Sherpa, D., et al. 2021. GID E3 ligase supramolecular chelate assembly configures multipronged ubiquitin targeting of an oligomeric metabolic enzyme. Mol. Cell 81: 2445-2459.e13.
6. Maitland, M.E.R., et al. 2021. Proteomic analysis of ubiquitination substrates reveals a CTLH E3 ligase complex-dependent regulation of glycolysis. FASEB J. 35: e21825.
7. Onea, G., et al. 2022. Distinct nuclear and cytoplasmic assemblies and interactomes of the mammalian CTLH E3 ligase complex. J. Cell Sci. 135: jcs259638.
8. Jordan, V.N., et al. 2023. Identifying E3 ligase substrates with quantitative degradation proteomics. Chembiochem 24: e202300108.

PROTOCOLS

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