

# MuRF3 (B-2): sc-166137

## BACKGROUND

MuRF1 (muscle specific ring finger protein 1 or RNF28) is a nuclear protein that interacts with SMT3b and the large myofibrillar protein Titin. In muscle cells, MuRF2 (RNF29) regulates gene expression and protein turnover. It localizes to the cytoplasm, but under atrophic conditions it is detected in the nucleus. MuRF2 can form oligomers with various other proteins, including Titin and Myosin. MuRF3, also designated tripartite motif-containing 54 (TRIM54) or ring finger protein 30 (RNF30), interacts with tubulin and stabilizes microtubules during myotube formation. It is a cytoplasmic protein that localizes to the Z-lines in skeletal muscles, while MuRF2 localizes to the sarcomeric M-band in cardiomyocytes. MuRF3 shares 77% and 65% sequence identity with MuRF1 and MuRF2, respectively. MuRF 1-3 share a conserved N-terminal RING domain and zinc-binding B-box motif, and two coiled-coil dimerization motif boxes, in their central regions.

## REFERENCES

1. Spencer, J.A., et al. 2000. Regulation of microtubule dynamics and myogenic differentiation by MuRF, a striated muscle RING-finger protein. *J. Cell Biol.* 150: 771-784.
2. Centner, T., et al. 2001. Identification of muscle specific ring finger proteins as potential regulators of the Titin kinase domain. *J. Mol. Biol.* 306: 717-726.
3. Bodine, S.C., et al. 2001. Identification of ubiquitin ligases required for skeletal muscle atrophy. *Science* 294: 1704-1708.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606474. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: TRIM54 (human) mapping to 2p23.3; Trim54 (mouse) mapping to 5 B1.

## SOURCE

MuRF3 (B-2) is a mouse monoclonal antibody raised against amino acids 266-333 mapping near the C-terminus of MuRF3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MuRF3 (B-2) is available conjugated to agarose (sc-166137 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166137 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166137 PE), fluorescein (sc-166137 FITC), Alexa Fluor® 488 (sc-166137 AF488), Alexa Fluor® 546 (sc-166137 AF546), Alexa Fluor® 594 (sc-166137 AF594) or Alexa Fluor® 647 (sc-166137 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166137 AF680) or Alexa Fluor® 790 (sc-166137 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## RESEARCH USE

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

## APPLICATIONS

MuRF3 (B-2) is recommended for detection of MuRF3 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 MuRF3 siRNA (h): sc-61102, MuRF3 siRNA (m): sc-61103, MuRF3 shRNA Plasmid (h): sc-61102-SH, MuRF3 shRNA Plasmid (m): sc-61103-SH, MuRF3 shRNA (h) Lentiviral Particles: sc-61102-V and MuRF3 shRNA (m) Lentiviral Particles: sc-61103-V.

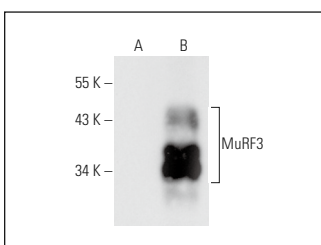
Molecular Weight of MuRF3: 40 kDa.

Positive Controls: MuRF3 (h): 293T Lysate: sc-112520.

## 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



MuRF3 (B-2): sc-166137. Western blot analysis of MuRF3 expression in non-transfected: sc-117752 (A) and human MuRF3 transfected: sc-112520 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Wiederstein, J.L., et al. 2018. Skeletal muscle-specific methyltransferase METTL21C trimethylates p97 and regulates autophagy-associated protein breakdown. *Cell Rep.* 23: 1342-1356.

## STORAGE

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

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