SANTA CRUZ BIOTECHNOLOGY, INC.

# MuRF2 (1A1): sc-517149

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

MuRF1 (RNF28), MuRF2 (RNF29) and MuRF3 (RNF30) are a specific class of RING finger proteins expressed in striated muscle tissues that act as signaling molecules and cytoskeletal adaptors. The MuRF proteins contain a conserved N-terminal RING domain and zinc-binding B-box motif in addition to two coiled-coil motifs in their central regions. In muscle cells, MuRF2 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, during sarcomere assembly. Endogenous MuRF2 associates with the sarcomeric M-band in cardiomyocytes. There are at least four isoforms of MuRF2.

## REFERENCES


1. 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.
2. Pizon, V., et al. 2002. Transient association of titin and myosin with microtubules in nascent myofibrils directed by the MuRF2 RING-finger protein. J. Cell Sci. 115: 4469-4482.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606469. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. McElhinny, A.S., et al. 2004. Muscle-specific RING finger-2 (MURF2) is important for microtubule, intermediate filament and sarcomeric M-line maintenance in striated muscle development. J. Cell Sci. 117: 3175-3188.
5. Tskhovrebova, L., et al. 2005. Muscle disease: a giant feels the strain. Nat. Med. 11: 478-479.
6. Lange, S., et al. 2005. The kinase domain of titin controls muscle gene expression and protein turnover. Science 308: 1599-1603.
7. Witt, S.H., et al. 2005. MuRF1 and MuRF2 target a specific subset of myofibrillar proteins redundantly: towards understanding MuRF-dependent muscle ubiquitination. J. Mol. Biol. 350: 713-722.


## CHROMOSOMAL LOCATION

Genetic locus: TRIM55 (human) mapping to 8q13.1.

## SOURCE

MuRF2 (1A1) is a mouse monoclonal antibody raised against amino acids 1-452 representing full length MuRF2 of human origin.

## PRODUCT

Each vial contains 100 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

MuRF2 (1A1) is recommended for detection of MuRF2 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MuRF2 siRNA (h): sc-61101, MuRF2 shRNA Plasmid (h): sc-61101-SH and MuRF2 shRNA (h) Lentiviral Particles: sc-61101-V.

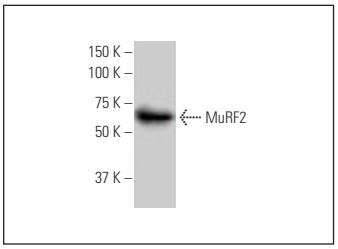
Molecular Weight of MuRF2: 60 kDa.

Positive Controls: human stomach extract: sc-363780 or HeLa whole cell lysate: sc-2200.

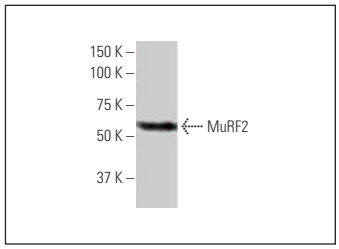
## RECOMMENDED SUPPORT REAGENTS

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).

## DATA




MuRF2 (1A1); sc-517149. Western blot analysis of MuRF2 expression in HeLa whole cell lysate.




MuRF2 (1A1); sc-517149. Western blot analysis of MuRF2 expression in human stomach tissue extract.

## SELECT PRODUCT CITATIONS


1. Morel, S., et al. 2021. A bioassay-guided fractionation of rosemary leaf extract identifies carnosol as a major hypertrophy inducer in human skeletal muscle cells. Nutrients 13: 4190.


## RESEARCH USE

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

## PROTOCOLS

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