

# MuRF3 (E-16): sc-50251

## 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 (RFN29) 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. MuRF1-3 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

- Spencer, J.A., Eliazar, S., Ilaria, R.L., Richardson, J.A. and Olson, E.N. 2000. Regulation of microtubule dynamics and myogenic differentiation by MuRF, a striated muscle RING-finger protein. *J. Cell Biol.* 150: 771-784.
- Centner, T., Yano, J., Kimura, E., McElhinny, A.S., Pelin, K., Witt, C.C., Bang, M.L., Trombitas, K., Granzier, H., Gregorio, C.C., Sorimachi, H. and Labeit, S. 2001. Identification of muscle specific RING finger proteins as potential regulators of the Titin kinase domain. *J. Mol. Biol.* 306: 717-726.
- Bodine, S.C., Latres, E., Baumhueter, S., Lai, V.K., Nunez, L., Clarke, B.A., Poueymirou, W.T., Panaro, F.J., Na, E., Dharmarajan, K., Pan, Z.Q., Valenzuela, D.M., DeChiara, T.M., Stitt, T.N., Yancopoulos, G.D. and Glass, D.J. 2001. Identification of ubiquitin ligases required for skeletal muscle atrophy. *Science* 294: 1704-1708.
- 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/>
- Li, Y.P., Chen, Y., Li, A.S. and Reid, M.B. 2003. Hydrogen peroxide stimulates ubiquitin-conjugating activity and expression of genes for specific E2 and E3 proteins in skeletal muscle myotubes. *Am. J. Physiol. Cell. Physiol.* 285: 806-812.
- Glass, D.J. 2003. Signaling pathways that mediate skeletal muscle hypertrophy and atrophy. *Nat. Cell. Biol.* 5: 87-90.
- Sacheck, J.M., Ohtsuka, A., McLary, S.C. and Goldberg, A.L. 2004. IGF-I stimulates muscle growth by suppressing protein breakdown and expression of atrophy-related ubiquitin ligases, atrogin-1 and MuRF1. *Am. J. Physiol. Endocrinol. Metab.* 287: 591-601.

## CHROMOSOMAL LOCATION

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

## SOURCE

MuRF3 (E-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MuRF3 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-50251 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

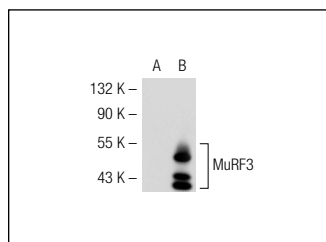
MuRF3 (E-16) is recommended for detection of MuRF3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MuRF3 (E-16) is also recommended for detection of MuRF3 in additional species, including equine, canine and bovine.

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.

## DATA



MuRF3 (E-16): sc-50251. Western blot analysis of MuRF3 expression in non-transfected: sc-117752 (A) and human MuRF3 transfected: sc-112520 (B) 293T whole cell lysates.

## 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.


 MONOS  
Satisfaction  
Guaranteed

Try **MuRF3 (B-2): sc-166137**, our highly recommended monoclonal alternative to MuRF3 (E-16).