MuRF1 (C-terminal region)

Cat. #	MP3401
Host	Rabbit Polyclonal
Size	100 µl

Background:

Muscle proteolysis is regulated by the ATP-dependent ubiquitin–proteasome system. This system involves ubiquitination of specific proteins, leading to recognition and degradation by the 26S proteasome complex. Ubiquitination requires interactions with ubiquitin related proteins, ubiquitin-activating (E1), ubiquitin-conjugating (E2) and ubiquitin-ligating enzymes (E3) known as ligases. Two muscle specific ubiquitin ligases have been identified, muscle ring finger 1 (MuRF-1) and Atrogin 1. Both ligases are regulated by the Akt1/FOXO1 signaling pathway, and both proteins have been shown to be upregulated prior to the onset of atrophy in multiple models of muscle wasting, including disuse and cachexia. MuRF1 is also known as TRIM63, SMRZ, and RNF28, and its expression is upregulated after TNFα treatment in C2C12 cells and muscle tissue, while localization of MuRF1 protein has been observed in the cytoplasm and nucleus of cells.

References

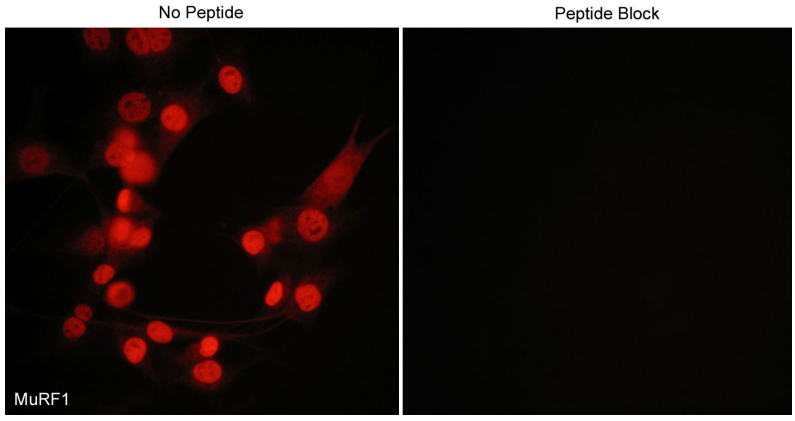
Bodine, S.C. (2001) Science. 294(5547):1704. (Background)

Dai, K.S. & Liews, C.C. (2001) J Biol. Chem. 276(26):23992. (Background)

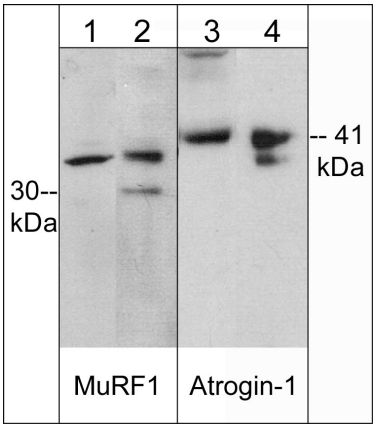
Hain, B.A. et al. (2011) Am J Physiol Regul Integr Comp Physiol. 300(3):R595. (WB: rat muscle)

Finlin, B.S. et al. (2011) J Nutritional Biochem. Online, Aug. 17 (WB: human myotubes)

Anvar, S.Y. et al. (2011) Skeletal Muscle. 1:15. (ICC: C2C12 myotubes)



Immunocytochemical labeling of MuRF1 in mouse C2C12 cells. The cells were labeled with rabbit polyclonal MuRF1 antibody, then detected using appropriate secondary antibody conjugated to Cy3. The antibody was used in the absence (left) or presence (right) of blocking peptide (MX3405).



Western blot analysis of mouse heart tissue (lanes 1 & 3) or C2C12 cells (lanes 2 & 4). The blot was probed with anti-MuRF1 (C-terminal region) (lanes 1 & 2) or anti-Atrogin -1 (lanes 3 & 4).

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Rev 4/21/2009

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Host	Rabbit Polyclonal
Size	100 µl

Immunogen:

MuRF1 (C-terminal) synthetic peptide (coupled to KLH) corresponding to amino acid residues in the C-terminal half of human MuRF1. This peptide sequence is highly conserved in rat and mouse MuRF1, and has 50% homology to MuRF2 (TRIM-55).

Buffer and Storage:

Rabbit polyclonal, affinity-purified antibody is supplied in 100 µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at –20°C. Do not aliquot. Stable for 1 year.

Applications:

WB	1:1000
ELISA	1:2000
ICC	1:300

End user should determine optimal dilution for their particular applications and experiments.
Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1hour at room temperature.

Specificity:

This antibody was affinity purified using MuRF1 (C-terminal region) peptide (without carrier). The antibody detects 38 and 30 kDa* proteins corresponding to the apparent molecular mass of MuRF1 isoforms on SDS-PAGE immunoblots of mouse C2C12 cells, and detects a 38 kDa band in mouse heart and muscle tissue.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

Related Products:

AP2041 Atrogin-1 Rabbit Polyclonal
MX3405 MuRF1 (C-terminal region) Peptide
AK6060 Actin & Tubulin Antibody Sampler Kit
IP1031 IkBa (Tyr-42), phospho-specific Rabbit Polyclonal
IP1041 IkBa (Tyr-305), phospho-specific Rabbit Polyclonal
MK6170 Muscle Atrophy Ubiquitin Ligase Antibody Sampler Kit

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