

# MuRF1 (C-terminal region) Peptide

Cat. # MX3405

Size 50 µg

## **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 TNF $\alpha$  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.  
Dai, K.S. & Liews, C.C. (2001) *J Biol. Chem.* 276(26):23992.  
Leger, B. et al. (2006) *J Physiol.* 576(3):923.  
Constantin, D. et al. (2007) *J Physiol.* 583(1):381.

## **Peptide Sequence:**

MuRF1 (C-terminal) synthetic peptide 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).

## **Applications:**

Blocking 1:1000

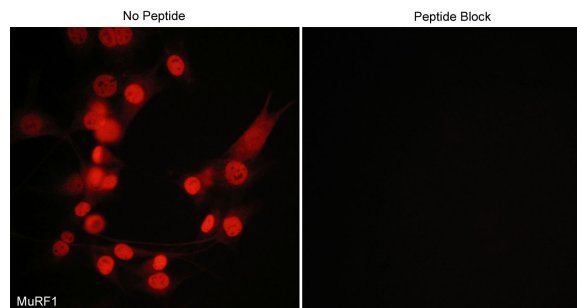
ELISA 50 ng/well

End user should determine optimal concentration dependent on the concentration of the antibody.  
Recommended for blocking antibody reactivity in Western blot and immunocytochemistry.  
ELISA established in 96-well Nunc immunoplates where peptide was bound to plates for 2 hrs in 0.1 M sodium carbonate buffer, pH 8.5.

## **Related Products:**

- MP3401 MuRF1 (C-terminal region) Rabbit Polyclonal  
AP2041 Atrogin-1 Rabbit Polyclonal  
AX2045 Atrogin-1 Peptide  
AK6060 Actin & Tubulin Antibody Sampler Kit  
MK6170 Muscle Atrophy Ubiquitin Ligase Antibody Sampler Kit  
IP1031 I $\kappa$ B $\alpha$  (Tyr-42), phospho-specific Rabbit Polyclonal

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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).

## **Buffer and Storage:**

Blocking Peptide is supplied in 50µl phosphate-buffered saline and 0.05% sodium azide. Store at –20°C. Stable for 1 year.

## **Specificity:**

The peptide is specifically recognized by MuRF1 (C-terminal region) antibody (MP3401) in ELISA, and has been shown to block the reactivity of MP3401 in Western blot. In addition, the peptide is recommended for use in blocking MP3401 reactivity in immunocytochemistry.

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