

Atrogin-1

Cat. # AP2041

Host Rabbit Polyclonal

Size 100 µl

Background:

Atrogin-1/Muscle Atrophy F-box (MAFbx) is an E3 ubiquitin ligase that mediates proteolysis events that occur during muscle atrophy. This ATP-dependent ubiquitin-mediated proteolysis occurs in response to a variety of catabolic states in muscle. Atrogin is expressed in heart and skeletal muscle, and is upregulated during muscle atrophy. In addition, Atrogin expression increases in C2C12 myotubes after stimulation with cytokines. Atrogin is thought to recognize and bind to some phosphorylated proteins and promote their ubiquitination and degradation during skeletal muscle atrophy. Atrogin interacts with MyoD by ubiquitination via a sequence found in transcriptional coactivators and therefore may play an important role in the course of muscle differentiation by determining the abundance of MyoD. Mice deficient in Atrogin are resistant to muscle atrophy.

References

- Bodine, S.C. et al. (2001) *Science* 294: 1704-8.
 Smith, M.A. et al. (2007) *Am. J. Phys. Cell. Phys.* 293:1947. (WB: mouse C2C12)
 Moylan, J.S. et al. (2008) *Am. J. Phys. Cell. Phys.* 295:986. (WB: mouse C2C12)
 Baltgalvis, K.A. et al. (2009) *Pflugers Arch.* 457(5):989. (WB: Mouse Muscle)

Immunogen:

A synthetic peptide (coupled to carrier protein) corresponding to amino acids 23 to 35 in mouse Atrogin. This sequence is highly homologous to human and rat Atrogin (F-box only protein 32).

Applications:

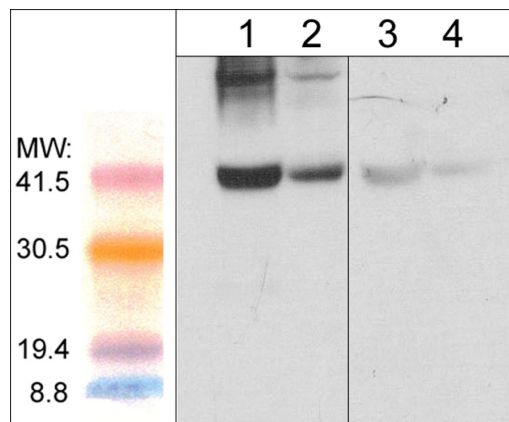
WB 1:1000
 ELISA 1:2000

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 1 hour at room temperature.

Related Products:

ML7051 Mouse Muscle Lysate
 CL8021 C2C12 Lysate
 AX2045 Atrogin-1 Peptide
 MP3401 MuRF1 (C-terminal region) Rabbit Polyclonal
 MK6900 Mouse Tissue Lysate Sampler Kit
 MK6170 Muscle Atrophy Ubiquitin Ligase Antibody Sampler Kit

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Western blot image of mouse gastrocnemius (lanes 1 & 3) and mouse diaphragm tissue lysate (lanes 2 & 4). The blot was probed with anti-Atrogin-1 (AP2041; lanes 1-4) in the presence (lanes 3 & 4) or absence (lanes 1 & 2) of Atrogin-1 peptide (AX2045).

Buffer and Storage:

Rabbit polyclonal, affinity-purified antibody is supplied in 100µl 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.

Specificity:

This antibody detects a 41 kDa* protein corresponding to the apparent molecular mass of Atrogin on SDS-PAGE immunoblots of mouse muscle tissue lysates. Similar results were seen in C2C12 cell lysate and the band observed in western blot is specifically blocked by Atrogin-1 peptide (AX2045).

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

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