

MAFbx (E-14): sc-27644

BACKGROUND

Muscle atrophy F-box (MAFbx) is an E3 ubiquitin ligase that initiates ATP-dependent ubiquitin-mediated proteolysis and promotes muscle atrophy. MAFbx transcript is abundant in cardiac and skeletal muscle undergoing atrophy. MAFbx ^{-/-} mice are resistant to muscle atrophy. MAFbx is thought to recognize and bind to some phosphorylated proteins and promote their ubiquitination and degradation during skeletal muscle atrophy. MAFbx interacts with MyoD by ubiquitination via a sequence found in transcriptional co-activators and therefore may play an important role in the course of muscle differentiation by determining the abundance of MyoD. MAFbx is specifically expressed in cardiac and skeletal muscle.

REFERENCES

1. Bodine, S.C., et al. 2001. Identification of ubiquitin ligases required for skeletal muscle atrophy. *Science* 294: 1704-1708.
2. Dehoux, M.J., et al. 2003. Induction of MAFbx and MuRF ubiquitin ligase mRNAs in rat skeletal muscle after LPS injection. *FEBS Lett.* 544: 214-217.
3. Glass, D.J. 2003. Signalling pathways that mediate skeletal muscle hypertrophy and atrophy. *Nat. Cell Biol.* 5: 87-90.
4. Rourke, B.C., et al. 2004. Myosin isoform expression and MAFbx mRNA levels in hibernating golden-mantled ground squirrels (*Spermophilus lateralis*). *Physiol. Biochem. Zool.* 77: 582-593.
5. Dehoux, M., et al. 2004. Role of the Insulin-like growth factor I decline in the induction of atrogin-1/MAFbx during fasting and diabetes. *Endocrinology* 145: 4806-4812.
6. Tintignac, L.A., et al. 2005. Degradation of MyoD mediated by the SCF (MAFbx) ubiquitin ligase. *J. Biol. Chem.* 280: 2847-2856.
7. LocusLink Report (LocusID: 114907).
<http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: FBXO32 (human) mapping to 8q24.13; Fbxo32 (mouse) mapping to 15 D1.

SOURCE

MAFbx (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of MAFbx 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-27644 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

MAFbx (E-14) is recommended for detection of MAFbx 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).

MAFbx (E-14) is also recommended for detection of MAFbx in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for MAFbx siRNA (h): sc-43906, MAFbx siRNA (m): sc-44807, MAFbx siRNA (r): sc-156172, MAFbx shRNA Plasmid (h): sc-43906-SH, MAFbx shRNA Plasmid (m): sc-44807-SH, MAFbx shRNA Plasmid (r): sc-156172-SH, MAFbx shRNA (h) Lentiviral Particles: sc-43906-V, MAFbx shRNA (m) Lentiviral Particles: sc-44807-V and MAFbx shRNA (r) Lentiviral Particles: sc-156172-V.

Molecular Weight of MAFbx: 42 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Okada, A., et al. 2008. Decreased muscle atrophy F-box (MAFbx) expression in regenerating muscle after muscle-damaging exercise. *Muscle Nerve* 38: 1246-1253.

RESEARCH USE

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

PROTOCOLS

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


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Try **MAFbx (F-9): sc-166806**, our highly recommended monoclonal alternative to MAFbx (E-14).