



MuRF1 (m): 293 Lysate: sc-178970

BACKGROUND

Muscle specific RING finger protein (MuRF1) is a sarcomere-associated protein that is upregulated by conditions that provoke atrophy. Pharmacological or genetic inhibition of the IKK β /NF κ B/MuRF1 pathway reverses muscle atrophy, which presents MuRF as a target for clinical intervention. MuRF1 is a key regulator of the PKC-dependent hypertrophic response and can blunt cardiomyocyte hypertrophy, which may have important implications in the pathophysiology of clinical cardiac hypertrophy. MuRF1 directly associates with titin kinase and influences microtubule-dependent signaling pathways in striated muscle and iris. MuRF1 upregulation is an indicator for skeletal muscle atrophy mechanisms that utilize ubiquitin-dependent proteolysis. MuRF1 transcript levels are high in situations where there is an overabundance of reactive oxygen species, such as cancer, AIDS and sepsis.

REFERENCES

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3. Li, Y.P., et al. 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: C806-C812.
4. Glass, D.J. 2003. Signalling pathways that mediate skeletal muscle hypertrophy and atrophy. *Nat. Cell Biol.* 5: 87-90.
5. Glass, D.J. 2003. Molecular mechanisms modulating muscle mass. *Trends Mol. Med.* 9: 344-350.
6. Kedar, V., et al. 2004. Muscle-specific RING finger 1 is a bona fide ubiquitin ligase that degrades cardiac Troponin I. *Proc. Natl. Acad. Sci. USA* 101: 18135-18140.
7. Satchek, J.M., et al. 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: E591-E601.

CHROMOSOMAL LOCATION

Genetic locus: Trim63 (mouse) mapping to 4 D3.

PRODUCT

MuRF1 (m): 293 Lysate represents a lysate of mouse MuRF1 transfected 293 cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

MuRF1 (m): 293 Lysate is suitable as a Western Blotting positive control for mouse reactive MuRF1 antibodies. Recommended use: 10-20 μ l per lane.

Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

RESEARCH USE

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