

# Obscurin (5C20): sc-517125

## BACKGROUND

Belonging to the protein kinase superfamily, Obscurin is a 7,968 amino acid protein that is specifically expressed in skeletal and cardiac muscle. Containing a GTPase nucleotide exchange factor (GEF) domain, Obscurin is localized in the sarcomere near the M-band and Z-disk where it participates in the G-protein regulated pathways that control the formation of new myofibrils. Obscurin contains 55 immunoglobulin (Ig)-like domains, through which it interacts with proteins such as titin and calmodulin. During cardiac hypertrophy, the gene encoding Obscurin is upregulated to produce additional contractile units. Knockdown of Obscurin mRNA results in the disruption of M-bands and A-bands and reduction of myosin and myomesin levels, suggesting that Obscurin is required for regular sarcomere structure. There are six isoforms of Obscurin that are produced as a result of alternative splicing events.

## REFERENCES

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4. Kontogianni-Konstantopoulos, A., et al. 2006. *De novo* myofibrillogenesis in C2C12 cells: evidence for the independent assembly of M bands and Z disks. *Am. J. Physiol., Cell Physiol.* 290: C626-C637.
5. Raeker, M.O., et al. 2006. Obscurin is required for the lateral alignment of striated myofibrils in zebrafish. *Dev. Dyn.* 235: 2018-2029.
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7. Kontogianni-Konstantopoulos, A., et al. 2006. Obscurin modulates the assembly and organization of sarcomeres and the sarcoplasmic reticulum. *FASEB J.* 20: 2102-2111.
8. Fukuzawa, A., et al. 2008. Interactions with titin and myomesin target obscurin and obscurin-like 1 to the M-band: implications for hereditary myopathies. *J. Cell Sci.* 121: 1841-1851.
9. Giacomello, E. and Sorrentino, V. 2009. Localization of ank1.5 in the sarcoplasmic reticulum precedes that of SERCA and RyR: relationship with the organization of obscurin in developing sarcomeres. *Histochem. Cell Biol.* 131: 371-382.

## CHROMOSOMAL LOCATION

Genetic locus: OBSCN (human) mapping to 1q42.13.

## SOURCE

Obscurin (5C20) is a mouse monoclonal antibody raised against amino acids 1551-1649 representing partial length Obscurin of human origin.

## PRODUCT

Each vial contains 50 µg IgG<sub>2a</sub> kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Obscurin (5C20) is recommended for detection of Obscurin of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

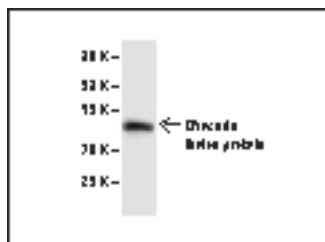
Suitable for use as control antibody for Obscurin siRNA (h): sc-75987, Obscurin shRNA Plasmid (h): sc-75987-SH and Obscurin shRNA (h) Lentiviral Particles: sc-75987-V.

Molecular Weight of Obscurin: 700-800 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BPHRP: sc-516102 or m-IgGκ BPHRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), 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).

## DATA



Obscurin (5C20) sc-517125. Western blot analysis of human recombinant Obscurin fusion protein.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.