

# Musclin (D-7): sc-365631

## BACKGROUND

Musclin, also designated osteocrin (Ostn), shows no homology with any known genes, except that it contains two conserved sequence motifs homologous to the natriuretic peptide family. Musclin is highly expressed in cells of osteoblast lineage and in skeletal muscle tissue, where it is tightly regulated by nutritional changes. It is secreted as either a full-length precursor protein or a processed form. A novel skeletal muscle-derived secretory factor, Musclin may play a role in bone formation and be linked to glucose metabolism. Studies indicate that Insulin increases Musclin expression, whereas epinephrine, isoproterenol and forskolin reduce its expression. Musclin is expressed in osteoblasts and young osteocytes. In mouse tissues, expression is bone-specific, although minimal Musclin expression is also observed in muscle, kidney, testis and heart tissues.

## REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610280. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Thomas, G., et al. 2003. Osteocrin, a novel bone-specific phenotype. *J. Biol. Chem.* 278: 50563-50571.
3. Nishizawa, H., et al. 2004. Musclin, a novel skeletal muscle-derived secretory factor. *J. Biol. Chem.* 279: 19391-19395.
4. Bord, S., et al. 2005. Characterization of osteocrin expression in human bone. *J. Histochem. Cytochem.* 53: 1181-1187.
5. Staiger, H., et al. 2006. The PPAR $\gamma$  agonist myotubes. *Horm. Metab. Res.* 38: 614-616.

## CHROMOSOMAL LOCATION

Genetic locus: OSTN (human) mapping to 3q28.

## SOURCE

Musclin (D-7) is a mouse monoclonal antibody raised against amino acids 1-133 representing full length Musclin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG $_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-365631 X, 200  $\mu$ g/0.1 ml.

Musclin (D-7) is available conjugated to agarose (sc-365631 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365631 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365631 PE), fluorescein (sc-365631 FITC), Alexa Fluor® 488 (sc-365631 AF488), Alexa Fluor® 546 (sc-365631 AF546), Alexa Fluor® 594 (sc-365631 AF594) or Alexa Fluor® 647 (sc-365631 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365631 AF680) or Alexa Fluor® 790 (sc-365631 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## RESEARCH USE

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

## APPLICATIONS

Musclin (D-7) is recommended for detection of Musclin of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

Suitable for use as control antibody for Musclin siRNA (h): sc-61106, Musclin shRNA Plasmid (h): sc-61106-SH and Musclin shRNA (h) Lentiviral Particles: sc-61106-V.

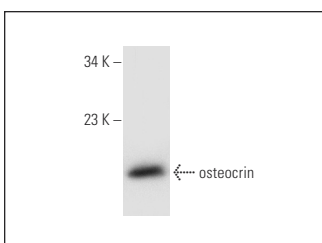
Musclin (D-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Musclin: 17 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Musclin (D-7): sc-365631. Western blot analysis of human recombinant osteocrin.

## SELECT PRODUCT CITATIONS

1. Singh, M., et al. 2022. Hydrogen sulfide mitigates skeletal muscle mitophagy-led tissue remodeling via epigenetic regulation of the gene writer and eraser function. *Physiol. Rep.* 10: e15422.

## STORAGE

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

## PROTOCOLS

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

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