

OSX (F-3): sc-393325



The Power to Question

BACKGROUND

Osterix (OSX) is a zinc finger-containing transcriptional activator that is distinctly expressed in all developing bones and is important for osteoblast differentiation. In particular, OSX is implicated in the differentiation of osteoblasts, which are the specialized cells of bone formation. OSX is a nuclear protein that binds to GC box promoters elements and activates mRNA synthesis from genes containing functional recognition sites. The periosteal and mesenchymal cells of the membranous skeletal elements of OSX- mice fail to differentiate into osteoblasts. Subsequently, the mesenchymal cells of OSX- mice fail to deposit bone matrix and do not form bone. Cox-2 deficiency correlates with a decrease in OSX expression, suggesting that Cox-2 may induce OSX to mediate skeletal repair.

CHROMOSOMAL LOCATION

Genetic locus: SP7 (human) mapping to 12q13.13; Sp7 (mouse) mapping to 15 F3.

SOURCE

OSX (F-3) is a mouse monoclonal antibody raised against amino acids 172-268 mapping within an internal region of OSX of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ in kappa light chain 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-393325 X, 200 µg/0.1 ml.

OSX (F-3) is available conjugated to agarose (sc-393325 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393325 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393325 PE), fluorescein (sc-393325 FITC), Alexa Fluor® 488 (sc-393325 AF488), Alexa Fluor® 546 (sc-393325 AF546), Alexa Fluor® 594 (sc-393325 AF594) or Alexa Fluor® 647 (sc-393325 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393325 AF680) or Alexa Fluor® 790 (sc-393325 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

OSX (F-3) is recommended for detection of OSX of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for OSX siRNA (h): sc-43984, OSX siRNA (m): sc-45909, OSX shRNA Plasmid (h): sc-43984-SH, OSX shRNA Plasmid (m): sc-45909-SH, OSX shRNA (h) Lentiviral Particles: sc-43984-V and OSX shRNA (m) Lentiviral Particles: sc-45909-V.

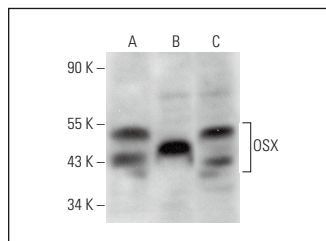
OSX (F-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of OSX: 45 kDa.

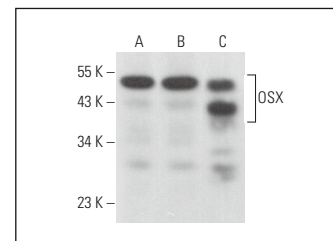
Positive Controls: NCI-H929 whole cell lysate: sc-364786, TF-1 cell lysate: sc-2412 or U-2 OS cell lysate: sc-2295.

STORAGE

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

DATA

OSX (F-3): sc-393325. Western blot analysis of OSX expression in NCI-H929 (A), TF-1 (B) and U-2 OS (C) whole cell lysates.



OSX (F-3): sc-393325. Western blot analysis of OSX expression in TF-1 (A), TK-1 (B) and HOS (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Huang, C., et al. 2016. MiR-144-3p regulates osteogenic differentiation and proliferation of murine mesenchymal stem cells by specifically targeting Smad4. *FEBS Lett.* 590: 795-807.
- Guo, C., et al. 2017. Protective effects of pretreatment with quercetin against lipopolysaccharide-induced apoptosis and the inhibition of osteoblast differentiation via the MAPK and Wnt/ β -catenin pathways in MC3T3-E1 cells. *Cell. Physiol. Biochem.* 43: 1547-1561.
- Zhou, X.Y., et al. 2018. Low-intensity pulsed ultrasound promotes spinal fusion and enhances migration and proliferation of MG63s through Sonic hedgehog signaling pathway. *Bone* 110: 47-57.
- Ramazzotti, G., et al. 2019. Phospholipase C- β 1 interacts with cyclin E in adipose-derived stem cells osteogenic differentiation. *Adv. Biol. Regul.* 71: 1-9.
- He, G., et al. 2019. MiR-877-3p promotes TGF- β 1-induced osteoblast differentiation of MC3T3-E1 cells by targeting Smad7. *Exp. Ther. Med.* 18: 312-319.
- Ni, L.H., et al. 2019. FK506 prevented bone loss in streptozotocin-induced diabetic rats via enhancing osteogenesis and inhibiting adipogenesis. *Ann. Transl. Med.* 7: 265.
- Zhang, H.Y., et al. 2019. Early growth response 1 reduction in peripheral blood involving condylar subchondral bone loss. *Oral Dis.* 25: 1759-1768.
- Rauner, M., et al. 2019. Transferrin receptor 2 controls bone mass and pathological bone formation via BMP and Wnt signaling. *Nat. Metab.* 1: 111-124.

RESEARCH USE

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

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