SANTA CRUZ BIOTECHNOLOGY, INC.

MEPE (LFMb-33): sc-73635

BACKGROUND

MEPE (matrix extracellular phosphoglycoprotein), also known as OF45 (osteoblast/osteocyte factor 45), is a 525 amino acid extracellular matrix protein. Expressed in osteocytes and brain, MEPE is a regulator of bone metabolism that is thought to mediate mineralization and demineralization within the osteocyte microenvironment. MEPE contains an RGD cell-attachment motif and shares molecular similarities with several dentin-bone extracellular matrix RGD-containing phosphoglycoproteins, including OPN (osteopontin) and DSP (dentin sialophosphoprotein). Via its ability to control bone mineralization, MEPE is associated with various developmental events such as skeletogenesis, bone regeneration and odontogenesis. MEPE is secreted in hypophosphatemic osteomalacia tumors, suggesting a possible role in the pathophysiology of bone-related cancers. Defects in the gene encoding MEPE may be associated with osteomalacia, an adult form of the childhood disease known as rickets that is caused by inadequate bone mineralization.

CHROMOSOMAL LOCATION

Genetic locus: MEPE (human) mapping to 4q22.1; Mepe (mouse) mapping to 5 E5.

SOURCE

MEPE (LFMb-33) is a mouse monoclonal antibody raised against the last exon in pET15b of MEPE of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MEPE (LFMb-33) is available conjugated to agarose (sc-73635 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-73635 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-73635 PE), fluorescein (sc-73635 FITC), Alexa Fluor® 488 (sc-73635 AF488), Alexa Fluor® 546 (sc-73635 AF546), Alexa Fluor® 594 (sc-73635 AF594) or Alexa Fluor® 647 (sc-73635 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-73635 AF680) or Alexa Fluor® 790 (sc-73635 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

MEPE (LFMb-33) is recommended for detection of amino acids 213-231 of MEPE 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for MEPE siRNA (h): sc-75773, MEPE siRNA (m): sc-75774, MEPE shRNA Plasmid (h): sc-75773-SH, MEPE shRNA Plasmid (m): sc-75774-SH, MEPE shRNA (h) Lentiviral Particles: sc-75773-V and MEPE shRNA (m) Lentiviral Particles: sc-75774-V.

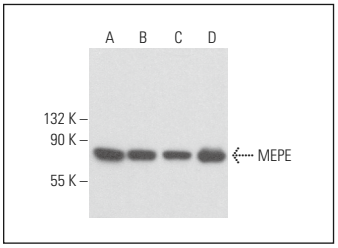
Molecular Weight of MEPE: 57 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, EOC 20 whole cell lysate: sc-364187 or SK-N-SH cell lysate: sc-2410.

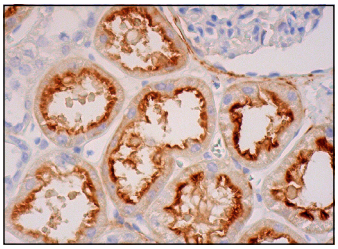
STORAGE

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

DATA



MEPE (LFMb-33): sc-73635. Western blot analysis of MEPE expression in SK-N-SH (**A**), MCF7 (**B**), EOC 20 (**C**) and 3T3-L1 (**D**) whole cell lysates.



MEPE (LFMb-33): sc-73635. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing apical membrane and cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Karaöz, E., et al. 2010. Isolation and *in vitro* characterisation of dental pulp stem cells from natal teeth. Histochem. Cell Biol. 133: 95-112.
2. Karaöz, E., et al. 2011. A comprehensive characterization study of human bone marrow mscs with an emphasis on molecular and ultrastructural properties. J. Cell. Physiol. 226: 1367-1382.
3. Karaöz, E., et al. 2011. Human dental pulp stem cells demonstrate better neural and epithelial stem cell properties than bone marrow-derived mesenchymal stem cells. Histochem. Cell Biol. 136: 455-473.
4. Koli, K., et al. 2015. Expression of matrix metalloproteinase (MMP)-20 and potential interaction with dentin sialophosphoprotein (DSPP) in human major salivary glands. J. Histochem. Cytochem. 63: 524-533.
5. Anunobi, C.C., et al. 2016. Expression of the SIBLINGs and their MMP partners in human benign and malignant prostate neoplasms. Oncotarget 7: 48038-48049.
6. Licini, C., et al. 2024. Possible involvement of HtrA1 serine protease in the onset of osteoporotic bone extracellular matrix changes. Tissue Cell 87: 102329.

RESEARCH USE

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

PROTOCOLS

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