SANTA CRUZ BIOTECHNOLOGY, INC.

MEPE (B-6): sc-390608

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

REFERENCES

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2. Bresler, D., et al. 2004. Serum MEPE-ASARM-peptides are elevated in X-linked rickets (HYP): implications for phosphaturia and rickets. J. Endocrinol. 183: R1-R9.
3. Lu, C., et al. 2004. Mepe is expressed during skeletal development and regeneration. Histochem. Cell Biol. 121: 493-499.
4. Nampei, A., et al. 2004. Matrix extracellular phosphoglycoprotein (MEPE) is highly expressed in osteocytes in human bone. J. Bone Miner. Metab. 22: 176-184.
5. Harris, S.E., et al. 2007. DMP1 and MEPE expression are elevated in osteocytes after mechanical loading *in vivo:* theoretical role in controlling mineral quality in the perilacunar matrix. J. Musculoskelet. Neuronal Interact. 7: 313-315.
6. Six, N., et al. 2007. Dentonin, a MEPE fragment, initiates pulp-healing response to injury. J. Dent. Res. 86: 780-785.
7. Gluhak-Heinrich, J., et al. 2007. MEPE expression in osteocytes during orthodontic tooth movement. Arch. Oral Biol. 52: 684-690.
8. Trueb, B., et al. 2007. Expression of phosphoproteins and amelotin in teeth. Int. J. Mol. Med. 19: 49-54.

CHROMOSOMAL LOCATION

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

SOURCE

MEPE (B-6) is a mouse monoclonal antibody raised against amino acids 11-310 mapping near the N-terminus of MEPE of mouse origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MEPE (B-6) is recommended for detection of MEPE 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 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.

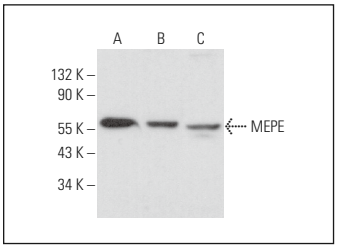
Molecular Weight of MEPE: 57 kDa.

Positive Controls: c4 whole cell lysate: sc-364186, LADMAC whole cell lysate: sc-364189 or EOC 20 whole cell lysate: sc-364187.

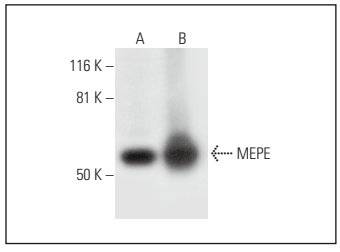
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



MEPE (B-6): sc-390608. Western blot analysis of MEPE expression in EOC 20 (**A**), c4 (**B**) and IMR-32 (**C**) whole cell lysates.



MEPE (B-6): sc-390608. Western blot analysis of MEPE expression in LADMAC (**A**) and EOC 20 (**B**) whole cell lysates.

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 for detailed protocols and support products.