SANTA CRUZ BIOTECHNOLOGY, INC.

MEPE (S-20): sc-74677

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

1. MacDougall, M., et al. 2002. MEPE/OF45, a new dentin/bone matrix protein and candidate gene for dentin diseases mapping to chromosome 4q21. Connect. Tissue Res. 43: 320-330.
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. Martin, A., et al. 2007. Degradation of MEPE, DMP1, and release of SIBLING ASARM-peptides (minhibins): ASARM-peptide(s) are directly responsible for defective mineralization in HYP. Endocrinology 149: 1757-1772.
6. 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.

CHROMOSOMAL LOCATION

Genetic locus: Mepe (mouse) mapping to 5 E5.

SOURCE

MEPE (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MEPE of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-74677 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MEPE (S-20) is recommended for detection of MEPE of mouse and rat 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

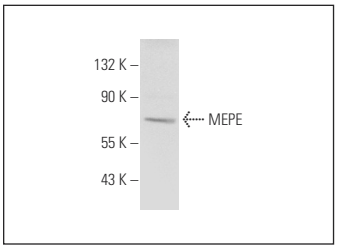
MEPE (S-20) is also recommended for detection of MEPE in additional species, including canine.

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

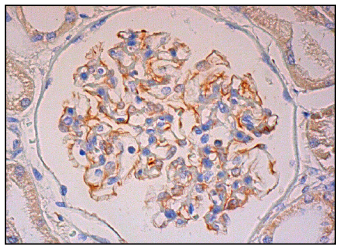
Molecular Weight of MEPE: 57 kDa.

Positive Controls: LADMAC whole cell lysate: sc-364189.

DATA



MEPE (S-20): sc-74677. Western blot analysis of MEPE expression in LADMAC whole cell lysate.



MEPE (S-20): sc-74677. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane staining of cells in glomeruli.

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 or our catalog for detailed protocols and support products.