

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human MEPE/OF45 in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human MEPE/OF45 Pro18-Asp525 Accession # Q9NQ76
Conjugate	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide
*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.	

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

Neutralization	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

MEPE (matrix extracellular phosphoglycoprotein), known as OF45 in mouse and rat, is a 55 kDa member of the SIBLING protein family. MEPE is primarily expressed in bone and dentin, where it regulates the mineralization of those tissues (1-3). The human MEPE cDNA encodes a 525 amino acid (aa) precursor that includes a 17 aa signal sequence. MEPE contains multiple consensus sites for post-translational modifications, including N-linked glycosylation, N-myristoylation, glycosaminoglycan attachment, and phosphorylation by a variety of kinases. MEPE also contains several putative proteolytic cleavage sites and one integrin-binding RGD motif (3, 4). There is therefore considerable potential for post-translational regulation of MEPE function and its degradation products. MEPE is secreted by osteoblasts and dental pulp stem cells during the mineralization process (5-7) and also by nonmineralizing tissues including epithelial cells in the renal proximal tubule and salivary duct (8, 9). MEPE has an inhibitory function in bone formation, (5) although a peptide corresponding to aa 242-264 stimulates new bone formation and the proliferation of osteoblasts and dental pulp stem cells (10, 11). MEPE contains one C-terminal ASARM motif common to SIBLING proteins. Similar to intact MEPE, the ASARM peptide inhibits bone mineralization and plays a central role in the phosphaturia and reduced mineralization of X-linked hypophosphatemic rickets (HYP) and tumor-induced osteomalacia (TIO) (12, 13). The zinc metalloprotease Phex binds directly to MEPE via the ASARM motif and prevents ASARM cleavage (13, 14). Multiple inactivating mutations in Phex are found in HYP and TIO and result in the increased liberation of ASARM peptide (15). Both MEPE and ASARM peptide are elevated in these disorders of mineralization and phosphate metabolism (12).

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc., and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.