

DESCRIPTION

Species Reactivity	Human
Specificity	Detects rhOsteoactivin in Direct ELISA.
Source	Monoclonal Mouse IgG _{2B} Clone # 1077401
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Osteoactivin Met1-Pro486 Accession # Q14956
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 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.

Immunocytochemistry	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	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

Osteoactivin (also GPNMB and DC-HIL) is a variably glycosylated 75-125 kDa member of the NMB/pMEL-17 family of molecules. It is found in multiple subcellular sites, but is most often associated with the endosomal/lysosomal compartment (1-3). Human Osteoactivin is a 560 amino acid (aa) type I transmembrane protein. Its precursor contains a 21 aa signal sequence, a 465 aa luminal/extracellular domain, a 21 aa transmembrane segment and a 53 aa cytoplasmic tail (4, 5). The luminal region contains an N-terminal heparin-binding motif (aa 23-26), multiple glycosylation sites, an RGD motif (aa 64-66) and an 88 aa PKD domain (aa 240-327). The intracellular tail has an ITAM (Y-x-x-l) and lysosomal targeting (L-L) motif (4, 5). The extracellular/luminal region shares 74% and 77% aa identity with the equivalent regions in mouse and canine, respectively. Multiple isoforms would appear to exist. There is one alternate splice form known that shows a 12 aa insert between aa 339-340 (6). An additional 206 aa isoform shows a mutation at position # 181 that results in a 26 aa substitution for the C-terminal 380 amino acids (7, 8). This has the potential to be soluble and may represent a counterpart to a secreted isoform of rat Osteoactivin (9). Cells known to express Osteoactivin include macrophages/Kupffer cells, fibroblasts, osteoblasts, myeloid dendritic cells, retinal pigment epithelial cells and melanocytes, plus fetal chondrocytes and stratum basale keratinocytes (3-5, 10-12). In mice, Osteoactivin is reported to bind to heparan sulfate-proteoglycan, possibly on the surface of endothelial cells and may also interact with integrins (13). It also appears to act as an inflammatory suppressor gene, as its expression downregulates the macrophage inflammatory response by inhibiting IL-6 and IL-12 p40 production (3).

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.