

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human PRELP in direct ELISAs and Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human PRELP Gln21-Ile382 Accession # P51888
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 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.

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

PRELP (Proline aRginine-rich End Leucine-rich repeat Protein; also Prolargin) is a 55-62 kDa secreted glycoprotein that belongs to the small leucine-rich proteoglycan (SLRP) superfamily of extracellular matrix (ECM) molecules (1-4). Within this family, it is considered a class II member, implying that it is unlikely to form dimeric structures (3). PRELP is synthesized as a 382 amino acid (aa) precursor that contains a 20 aa signal sequence plus a 362 aa mature region (1, 5). Like other SLRPs, PRELP contains an N-terminal extension (aa 72-107) coupled to multiple Leu-rich repeats (LRRs) (aa 95-382) (6). Unlike other SLRPs, PRELP does not contain any proteoglycan chains, and its N-terminal extension is highly basic in charge. The N-terminus reportedly binds to negatively-charged heparin/heparin-sulfate, chondroitin sulfate, and Gram⁻ bacterial cell walls, while the LRR region participates in protein-protein interactions (7-9). Although PRELP is known to be synthesized by only a few cell types, including osteoblasts, skeletal muscle and chondrocytes, its expression is likely to be more widespread, given its presence in the basement membrane (BM) of Bowman's capsule, epididymal epithelium and the stratified squamous epithelium of the skin (1, 10, 11). The dual binding profile of PRELP is key to its function. In cartilage, PRELP likely links chondrocyte cell membrane heparin sulfate (HS) chains to endogenous type II collagen. Within the context of the BM, PRELP likely plays an anchoring role. The BM is composed of type IV collagen and laminin, linked together by nidogen. BM Perlecan reinforces this linkage by binding to all three components. PRELP, on the edge of the BM, can bind to free perlecan HS chains (via its N-terminus), and to underlying type I collagen (via its LRRs), thus forming an anchor for the BM (11). Notably, the N-terminus appears to do more than simply provide part of a linkage mechanism. In bone, osteoblast secreted PRELP is hypothesized to undergo proteolysis by enzymes such as LysC and glutamyl endopeptidase. This will generate 40-75 aa N-terminal fragments that can bind to chondroitin sulfate adducts that exist on the surface of pre-fusion osteoclast precursors. Following binding, PRELP is internalized, complexed to annexin-II, and translocated to the nucleus, where it interacts with NFκBp65 to block osteoclast maturation (8). In tissue, PRELP may also undergo proteolytic processing during inflammation to release an N-terminal fragment containing aa 21-42 of the precursor (7). This sequence has been shown to possess potent antimicrobial activity by creating pores in bacterial cell walls. Mature human PRELP shares 91% aa identity with mouse PRELP (10).

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.