

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human COMP/Thrombospondin-5 in direct ELISAs and Western blots. Does not cross-react with recombinant human Thrombospondin-1, -2, or -4.
Source	Monoclonal Mouse IgG _{2B} Clone # 360215
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human COMP/Thrombospondin-5 Gln21-Ala757 (Ala256Arg) Accession # P49747.2
Conjugate	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 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.

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

Cartilage Oligomeric Matrix Protein (COMP), also known as Thrombospondin-5, is a 110 kDa multidomain calcium binding protein that associates with other extracellular matrix molecules. Thrombospondin-1 and -2 constitute subgroup A and form homotrimers, whereas Thrombospondin-3, -4, and COMP constitute subgroup B and form homopentamers (1-4). The human COMP cDNA encodes a 757 amino acid (aa) precursor that includes a 20 aa signal sequence followed by a non-collagenous coiled-coil domain, four EGF-like repeats, seven TSP type-3 repeats, and a globular TSP C-terminal domain (5). Human COMP shares 86-93% aa sequence identity with rat, mouse, equine, bovine, and canine COMP. Within the TSP type-3 repeats and TSP C-terminal domain, human COMP shares 60%, 61%, 74%, and 80% aa sequence identity with human Thrombospondin-1, -2, -3, and -4, respectively. The coiled coil domain mediates the association of COMP into disulfide-linked homopentamers with a central hub and peripheral globular domains connected by flexible strands (6, 7). An axial pore is formed by the coiled coil assembly and binds vitamin D₃ which is involved in bone and cartilage metabolism (8). An RGD sequence in the third TSP type-3 repeat mediates chondrocyte attachment *via* Integrin α5β1, although when reduced and in the absence of calcium, attachment is mediated *via* Integrin αVβ3 (9). COMP is upregulated in rheumatoid arthritis and osteoarthritis, hepatocellular carcinomas, chronic pancreatitis, and pancreatic carcinomas (10-12). Elevated circulating COMP levels are used as a biomarker for early onset of some skeletal disorders (10). Several mutations are associated with skeletal dysplasias, and the most common, a point mutation in the third TSP type-3 repeat, results in diminished calcium binding ability (13, 14).

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.