

DESCRIPTION

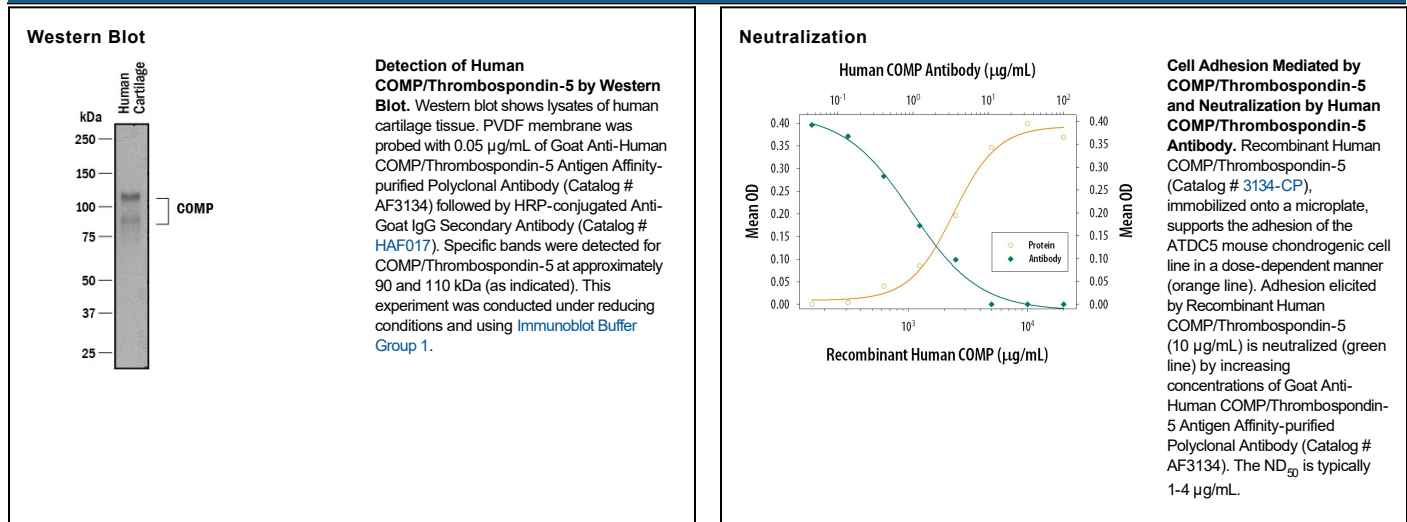
Species Reactivity	Human
Specificity	Detects human COMP in direct ELISAs and Western blots. In Western blots, less than 1% cross-reactivity with recombinant human Thrombospondin-1, -2, -3 and -4 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human COMP/Thrombospondin-5 Gln21-Ala757 (Ala256Arg) Accession # P49747
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

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.

	Recommended Concentration	Sample
Western Blot	0.05 µg/mL	See Below
Neutralization		Measured by its ability to neutralize COMP/Thrombospondin-5-mediated adhesion of the ATDC5 mouse chondrogenic cell line. The Neutralization Dose (ND ₅₀) is typically 1-4 µg/mL in the presence of 10 µg/mL Recombinant Human COMP/Thrombospondin-5.

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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).

References:

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