Human COMP/Thrombospondin-5 Antibody

Monoclonal Mouse IgG_1 Clone # 2127-F5

Catalog Number: MAB31341

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human COMP in Western blots.
Source	Monoclonal Mouse IgG_1 Clone # 2127-F5
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Bacteria-derived recombinant human COMP
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 as a 0.2 µm filtered solution in PBS.

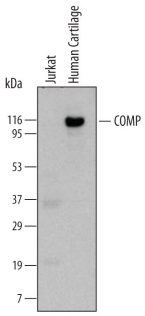
APPLICATIONS

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	2 µg/mL	See Below
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human COMP/Thrombospondin-5 (Catalog # 3134-CP), see our available Western blot detection antibodies

DATA

Western Blot



Detection of Human COMP/Thrombospondin-5 by Western Blot. Western blot shows lysates of human cartilage tissue. PVDF membrane was probed with 2 µg/mL of Human COMP/Thrombospondin-5 Monoclonal Antibody (Catalog # MAB31341) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 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.** ● 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.

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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 D_3 which is involved in bone and cartilage metabolism (8). An RGD sequence in the third TSP type-3 repeat mediates chondrocyte attachment *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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