Human WISP-1/CCN4 Antibody

Monoclonal Mouse IgG_{2A} Clone # 213609

Catalog Number: MAB16271

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human WISP-1 in ELISAs. In sandwich immunoassays, no cross-reactivity or interference with recombinant human (rh) Biglycan, rhDecorin, rhNOV, or rhWISP-3 was observed.
Source	Monoclonal Mouse IgG_{2A} Clone # 213609
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human WISP-1/CCN4 Thr23-Asn367 Accession # O95388
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.*

Human WISP-1/CCN4 Sandwich Immunoassay		**Reagent**
ELISA Capture	2-8 µg/mL	Human WISP-1/CCN4 Antibody (Catalog # MAB16271)
ELISA Detection	0.1-0.4 µg/mL	Human WISP-1/CCN4 Biotinylated Antibody (Catalog # BAF1627)
Standard		Recombinant Human WISP-1/CCN4 (Catalog # 1627-WS)

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
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.

BACKGROUND

Human WISP-1 (Wnt-induced secreted protein-1; also CNN4) is a 40 kDa, secreted, heparin-binding glycoprotein that is a member of the CCN (or CTGF/Cyr61/Nov) cysteine-rich protein family (1 - 5). It is synthesized as a 367 aa precursor that contains a series of structural homology modules. Following a 22 amino acid (aa) signal sequence, there is a 68 aa IGFBP-like domain (aa 53 - 120), a 57 aa von Willebrand factor type C (VWC) module (aa 126 - 182), a 40 aa TSP type I domain (aa 220 - 259) and a 75 aa, C-terminal cysteine knot motif (aa 273 - 347). The VWC module is associated with protein-protein interaction, the TSP domain binds sulfated glycoconjugates, and the cysteine knot mediates dimerization and receptor binding (4). It is likely that WISP-1 normally circulates as an 80 kDa homodimer (2). At least five alternative splice forms are known for WISP-1. One is 30 kDa in size, 258 aa in length, and shows a substitution of a His for aa 95 - 182. This removes the VWC domain (2, 6). A second isoform is 155 aa in length and shows a frameshift at Arg 117 with a unique 38 aa C-terminal extension. A third is 195 aa in length and shows a 31 aa substitution for the first 203 aa of the full length precursor (6). This retains the VWC and cysteine knot domains. A fourth shows a 43 aa substitution for aa 117 - 367 for a total length of 163 aa. This effectively removes everything but the IGFBP-like domain (7). The last splice form contains a deletion of aa 25 - 269 for a total length of 122 aa. Thus, only the signal sequence and cysteine knot motifs are retained (8). This leaves only the IGFBP-like domain (9). Full-length mature human WISP-1 is 85% aa identical to both mouse and rat WISP-1. WISP-1 is expressed by osteoblasts and may contribute to fracture healing by promoting bone cell formation (10, 11).

References:

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Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449