

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human WISP-1 in Western blots. In this format, approximately 50% cross-reactivity with recombinant mouse (rm) WISP-1 is observed and less than 1% cross-reactivity with rhNOV and rhCTGF is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human WISP-1 Thr23-Asn367 Accession # O95388
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

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	0.1 µg/mL	Recombinant Human WISP-1/CCN4 (Catalog # 1627-WS)
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	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.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <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

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 IGF1BP-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 IGF1BP-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 IGF1BP-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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