

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human WISP-1/CCN4 in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 50% cross-reactivity with recombinant mouse WISP-1 is observed and less than 1% cross-reactivity with recombinant human (rh) CTGF and
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human WISP-1/CCN4 Thr23-Asn367 Accession # O95388
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 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.
Immunohistochemistry	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

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).

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