

## WISP1/CCN4 Protein, Human, Recombinant (His)

### General Information

Synonyms:	WISP1c;WISP1i;CCN4;WNT1 inducible signaling pathway protein 1;WISP1tc
Protein Construction:	A DNA sequence encoding the human WISP1 (NP_003873.1) (Met 1-Asn 367) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Thr 23
Species:	Human
Expression Host:	HEK293 Cells
Accession:	O95388-1
Molecular Weight:	39 kDa (predicted); 55 kDa (reducing condition, due to glycosylation)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 80 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

Reconstitution:	A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.
Stability & Storage:	It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small>
Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

CCN4/Wnt-induced secreted protein 1 (WISP1) is a secreted, cysteine-rich, heparin-binding glycoprotein, belonging to the CCN (CTGF/CYR61/NOV) family of growth factors, and is involved in diverse biological functions such as cell growth, adhesion, migration, angiogenesis, tissue repair, and regulation of extracellular matrix. Members of the CCN family demonstrate high structural homology sharing four conserved cysteine-rich modular domains: an IGF1BP (insulin-like growth factor-binding) domain, a von Willebrand type C domain, a

thrombospondin domain and a C-terminal cysteine -knot domain. WISP1 is a putative downstream effector of the Wnt/Frizzled pathway that mediates diverse developmental processes, was identified as an oncogene regulated by the Wnt-1-beta-catenin pathway. Thus WISP1 may contribute to Wnt-1-mediated tumorigenesis and malignance. Expression of WISP1 in some cells results in transformation and tumorigenesis. WISP1 acts to block cell death at a late stage in the p53-mediated apoptosis pathway. It was reported that WISP1 interacts with sulfated glycoconjugates, decorin and biglycan in the ECM of connective tissue, and possibly prevents their inhibitory activity in tumor cell proliferation.

### Reference

Su F, et al.(2002) WISP-1 attenuates p53-mediated apoptosis in response to DNA damage through activation of the Akt kinase. *Genes Dev.* 16(1): 46-57.

Yanagita T, et al.(2007) Expression and physiological role of CCN4/Wnt-induced secreted protein 1 mRNA splicing variants in chondrocytes. *FEBS J.* 274(7): 1655-65.

Wang H, et al.(2009) Nitric oxide increases Wnt-induced secreted protein-1 (WISP-1/CCN4) expression and function in colitis. *J Mol Med.* 87(4): 435-45.

Venkatachalam K, et al.(2009) WISP1, a pro-mitogenic, pro-survival factor, mediates tumor necrosis factor-alpha (TNF-alpha)-stimulated cardiac fibroblast proliferation but inhibits TNF-alpha-induced cardiomyocyte death. *J Biol Chem.* 284(21): 14414-27.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481