

PRODUCT DATA SHEET

COMP-Angiopoietin-1 (human) (rec.)

Cat. No. INT-001-C001

Product Specifications

Source The amino-terminal portion(amino acids 1-255) of human Ang1 was replaced with the short coiled-coil domain (45 amino acids) of cartilage oligomeric matrix protein (COMP) and was fused at the N-terminal to a FLAG-tag. The COMP-Ang1 was produced in CHO cells and purified. The protein forms mainly pentameric structures which were imaged by transmission electron microscopy (See Appendix 1).

Concentration 0.3mg/ml

Formulation 3X FLAG peptide elution solution (150ng/μl in PBS)

Handling, Stability and Storage Centrifuge the vial before opening to recover entire contents of the vial. Due to possible sublimation during storage, the buffer volume may decrease over time, however, the product is sold by mass and the amount of protein will remain constant. To ensure quantitative recovery, we suggest the stock solution be made in the original vial. Below -70°C solubilized proteins should be stored at -20°C up to six months. Avoid repeated freeze thaw cycles. After opening, prepare aliquots and store at -20°C

Activity Induces the phosphorylation of Tie2 in primary cultured human vascular endothelial cells. (Appendix 3).

General Description

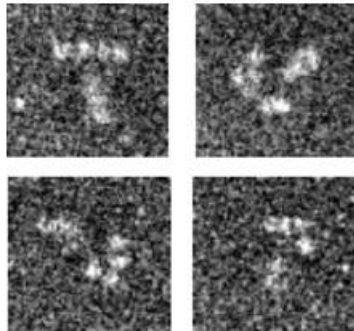
Angiopoietin 1 (Ang 1) and angiopoietin 2 (Ang 2) are closely related secreted ligands which bind with similar affinity to Tie-2, a receptor tyrosine kinase with immune globulin and epidermal growth factor homology domains expressed primarily on endothelial cells and early hematopoietic cells. Tie-2 and angiopoietins have been shown to play critical roles in embryo genic angiogenesis and in maintaining the integrity of the adult vasculature(1). the role of COMP-Ang-1 in preventing hypertension and target organ damage.(2) Production of recombinant Ang1 is hindered by the aggregation and insolubility of the protein. The activity of the protein frequently varies after purification. These difficulties are due to Ang1's unique structural characteristics. A soluble, stable and potent Ang1 variant, COMP-Ang1, was developed(3). COMP-Ang1 is more potent than native Ang1 in phosphorylating the Tie2 receptor and COMP-Ang-1, as an antihypertensive agent that effectively reduces the hypertension-associated cardiovascular and renal damage, as well as prevents the further elevation of BP.(2)

References

1. Jones, N. et al., 2001, Nat. Rev. Mol. Cell Biol. 2:257 - 267.
2. Koh G.Y. et al., Cardiovasc Res. 2008 Nov 1;80(2):319.
3. Koh G.Y. et al., 2004, Proc. Natl. Acad. Sci., 101:5547-555

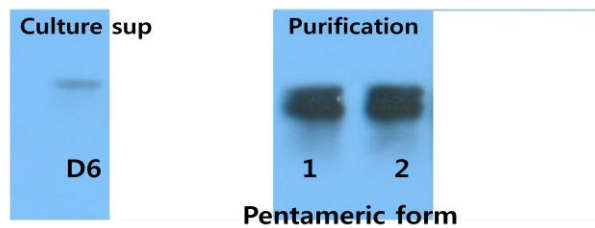
- **Appendix 1.**

- **Glycerol spraying/low-angle rotary metal shadowed specimens were imaged by transmission electron microscopy.**
- COMP-Ang1 form mainly pentameric structures, respectively



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- **Appendix 2.**

- A soluble, stable and potent Ang1 variant, COMP-Ang1, was developed



- **Appendix 3**

- **Induction of the phosphorylation of Tie2 in primary cultured human vascular endothelial cells.**
- Serum-starved human umbilical vein endothelial cells were treated with 200 ng/ml of BSA (Co) or 20 ng/ml of COMP-Ang1 (CA1) for 15 min.
- The phosphorylation of Tie2 (Phospho-Tie2) was measured after immune precipitation

