PRODUCT DATA SHEET

COMP-Angiopoietin-2 (human) (rec.)

Cat. No.	INNO-xxx-xxx-xxxx
Product Specifications	
Source	The amino-terminal portion(amino acids 1-255) of human Ang2 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-Ang2 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 (0.2%CHAPS 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. Solubilized proteins should be stored at -20oC 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 2).

General Description

Despite that angiopoietin-2 (Ang2) produces more versatile and dynamic functions than angiopoietin-1 (Ang1) in angiogenesis and inflammation, the molecular mechanism that underlies this difference is still unknown. To define the role of oligomerization of Ang2 in activation of its receptor, Tie2, we designed and generated different oligomeric forms of Ang2 by replacement of the amino-terminal domains of Ang2 with pentameric short coiled-coil domains derived from COMP. COMP-Ang2 strongly binds and activates Tie2, whereas GCN4-Ang2 and MAT-Ang2 weakly to moderately bind and activate Tie2. Although native Ang2 strongly binds to Tie2, it does not activate Tie2. Accordingly, COMP-Ang2 strongly promotes endothelial cell survival, migration, and tube formation in a Tie2-dependent manner, and the potency of COMP-Ang2 is almost identical to that of COMP-Ang1. Furthermore, the potency of COMP-Ang2-induced enhanced angiogenesis in the wound healing region is almost identical to the potency of COMP-Ang1-induced enhanced angiogenesis. Overall, there is no obvious difference between COMP-Ang2 and COMP-Ang1 in *in vitro* and *in vivo* angiogenesis..

References

1 Gou Young Koh, et. al., BBA Molecular Cell Research Volume 1793, Issue 5, May 2009, Pages 772-780

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