

DA3501X**Recombinant Human Angiopoietin-2****Alternate names:**

ANG-2, ANG2, ANGPT2

Quantity:

20 µg

Background:

Human Angiopoietin-2 (Ang-2), a 66 kDa protein consisting of 476 amino acid residues (N21-F496), is fused to a N-terminal myc-tag and produced in insect cells. The angiopoietin (Ang) family of growth factors includes four members, all of which bind to the endothelial receptor tyrosine kinase Tie2. Two of the Angs, Ang-1 and Ang-4, activate the Tie2 receptor, whereas Ang-2 and Ang-3 inhibit Ang-1-induced Tie2 phosphorylation. Angiopoietin-1 (Ang-1) is a secreted growth factor which binds to and activates the Tie-2 receptor tyrosine kinase. The factor enhances endothelial cell survival and capillary morphogenesis, and also limits capillary permeability. Ang-2 binds the same receptor but fails to activate it: hence, it is a natural inhibitor of Ang-1. Ang-2 destabilises capillary integrity, facilitating sprouting when ambient vascular endothelial growth factor (VEGF) levels are high, but causing vessel regression when VEGF levels are low. Tie-1 is a Tie-2 homologue but its ligands are unknown. Angiopoietin and Tie genes are expressed in the mammalian metanephros, the precursor of the adult kidney, where they may play a role in endothelial precursor growth. Tie-1-expressing cells can be detected in the metanephros when it first forms and, based on transplantation experiments, these precursors contribute to the generation of glomerular capillaries. During glomerular maturation, podocyte-derived Ang-1 and mesangial-cell-derived Ang-2 may affect growth of nascent capillaries. After birth, vasa rectae acquire their mature configuration and Ang-2 expressed by descending limbs of loops of Henle would be well placed to affect the growth of this medullary microcirculation. Finally, preliminary data implicate angiopoietins in deregulated vessel growth in Wilms' kidney tumours and in vascular remodelling after nephrotoxicity. Altogether, existing data suggest that VEGF-A and Angiopoietins not only have quite different roles during vascular development, but also very complementary and coordinated roles.

Uniprot ID:[Q15123](#)**NCBI:**[NP_001112359.1](#)**GeneID:**[285](#)**Species:**

Human

Source:

CHO cells

Format:	State: Lyophilized protein Purity: >95% pure by SDS-PAGE and visualised by silver stain Buffer System: 10 mM Sodium Phosphate, pH 8.0 Stabilizers: None Endotoxin Level: < 0.1 ng per µg of Ang-2 Reconstitution: Restore in water to a concentration of 0.1-1.0 mg/ml. Do not vortex. For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C.
Description:	Recombinant Human ANG-2 is a C-terminal Histidine tagged glycoprotein which migrates with an apparent molecular mass of 60 – 70 kDa by SDS-PAGE under reducing conditions. Sequencing analysis shows an N-terminal sequence starting with residue 68 (D) of the ANG-2 precursor protein. Biological Activity: Determined by its ability to stimulate tubulogenesis in HUVEC cells using a concentration of 0.2µg/ml. Molecular weight: 60-67 kDa (476 aa)
Storage:	Store lyophilized at 2-8°C for 6 months or at -20°C long term. After reconstitution store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C long term. Avoid repeated freezing and thawing. Shelf life: one year from despatch.
General Readings:	1. Fiedler et al., J Biol Chem 278:1721, 2003. 2. Korff et al., FASEB J 15:447, 2001. 3. Tsigkos et al., Expert Opin Investig Drugs 12:933, 2003. 4. Koh et al., Exp Mol Med. 34:1, 2002.