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# Certificate of Analysis and Data Sheet Recombinant Human Angiopoietin-1

**Catalog No.**  
228-10049

**Source**  
Insect Cells

## *Synonyms*

ANGPT1, AGP-1, ANG-1, AGPT, angiopoietin 1 isoform a, angiopoietin 1 isoform b, KIAA0003.

## *Introduction*

The Angiopoietins are a family of growth factors which bind to the endothelial receptor tyrosine kinase Tie2. Angiopoietin-1, 4 activate the Tie2 receptor, whereas Angiopoietin-2, 3 inhibit Angiopoietin-1-induced Tie2 phosphorylation. Ang-1 Human is a secreted growth factor which enhances endothelial cell survival and capillary morphogenesis, also it limits capillary permeability. Ang-2 is a natural inhibitor of Ang-1 because it binds the same receptor but fails activate it. When ambient levels of VEGF are high Ang-2 destabilizes capillary integrity, facilitating sprouting but when VEGF levels are low it causes vessel regression. Although Tie-1 and Tie-2 homologues but Tie-1's ligands are unknown. The mammalian metanephros (precursor of the adult kidney) is the local where Angiopoietin and Tie genes are expressed. These genes may play a role in endothelial precursor growth. When the metanephros first forms Tie-1-expressing cells can be detected. Ang-1 (podocyte-derived) and Ang-2 (mesangial-cell-derived) may affect growth of nascent capillaries during glomerular maturation. The descending limbs of loops of Henle in the mature vasa rectae (after birth) express Ang-2 which affects the growth of this medullary microcirculation. As gathered from recent data, angiopoietins are implicated in unregulated vessel growth in Wilms' kidney tumors and in vascular remodeling after nephrotoxicity. During vascular development VEGF-A and Angiopoietins not only have different roles, but also complementary and coordinated roles.

## *Description*

Angiopoietin-1 (Ang-1) Human, a 66 kDa protein consisting of 476 amino acid residues (N21-F496) is fused to an N-terminal myc-tag and produced in insect cells.

## *Physical Appearance*

Sterile Filtered clear liquid formulation.

## *Formulation*

The Angiopoietin 1 Human (0.111mg/ml) contains 50mM Tris-HCL, pH 7.5, 150mM NaCl, 0.05% CHAPS.

**The products are furnished for LABORATORY RESEARCH USE ONLY.  
Not for diagnostic or therapeutic use.**



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### ***Stability***

ANG-1 although stable at 14°C 1 week, should be stored desiccated below -18°C.

**Please prevent freeze-thaw cycles.**

### ***Purity***

The purity of Angiopoietin 1 Human is greater than 95.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE.

### ***Biological Activity***

The biological activity was determined by the induction of endothelial cell sprouting as described in Korff et al., 2001.

### ***Protein content***

Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm using the absorbency value of 1.27 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).
2. Analysis by RP-HPLC, using a standard solution of ANG-1 Human as a Reference Standard.

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