

## ANG-1, Human Recombinant

|                            |   |       |
|----------------------------|---|-------|
| <b>CATALOG #:</b>          | 7115-10   | 10 µg |
|                            | 7115-50   | 50 µg |
| <b>ALTERNATE NAMES:</b>    | Angiopoietin-1  |       |
| <b>SOURCE:</b>             | HeLa cells  |       |
| <b>PURITY:</b>             | ≥ 95% by SDS-PAGE gel and HPLC analyses   |       |
| <b>MOL. WEIGHT:</b>        | 60-70 kDa   |       |
| <b>ENDOTOXIN LEVEL:</b>    | < 0.1 ng/µg of protein (<1EU/µg).   |       |
| <b>FORM:</b>               | Lyophilized   |       |
| <b>FORMULATION:</b>        | Sterile filtered through a 0.2 micron filter. Lyophilized from 20 mM Sodium Phosphate, pH 7.5, 200 mM NaCl, 5% Trehalose. |       |
| <b>STORAGE CONDITIONS:</b> | Store at -20°C. After reconstitution, aliquot and store at -20°C to -80°C. Avoid repeated freezing and thawing cycles.    |       |

### RECONSTITUTION:

Centrifuge the vial prior to opening. Reconstitute 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:

Angiopoietin-1 (Ang-1) is a secreted ligand for Tie-2, a tyrosine-kinase receptor expressed primarily on vascular endothelial cells and early hematopoietic cells. Ang-1/ Tie-2 signaling promotes angiogenesis during the development, remodeling, and repair of the vascular system. Transgenic mice lacking expression of either Ang-1 or Tie-2 fail to develop a fully functional cardiovascular system and die before birth. Postnatally, the angiogenic activity of Ang-1/Tie-2 is required during normal tissue repair and remodeling of the female endometrium in the menstrual cycle. Ang-1/Tie-2 signaling appears to be regulated by Angiopoietin-2 (Ang-2), a natural antagonist for Tie-2 that exerts its effects through an internal autocrine loop mechanism. In addition to suppressing endothelial cell activation by inhibiting the expression of adhesion and inflammatory molecules, Ang-1 enhances endothelial cell survival and capillary

morphogenesis, and lessens capillary permeability. As such, Ang-1 has a potential to become an effective therapeutic agent for treating various endothelium disorders, including several severe human pulmonary diseases. The efficacy of cell-based Ang-1 gene therapy for acute lung injury (ALI) has recently been studied in a rat model of ALI. The results of this study show that such therapy can markedly improve lung condition and suggest that Ang-1 therapy may represent a potential new strategy for the treatment and/or prevention of acute respiratory distress injury (ARDI), a significant cause of morbidity and mortality in critically ill patients. Recombinant human ANG-1, derived from HeLa cells, is a C-terminal histidine tagged glycoprotein which migrates with an apparent molecular mass of 60.0 – 70.0 kDa by SDS-PAGE under reducing conditions. Sequencing analysis shows N-terminal sequences starting with Ser-20 and with Asp-70 of the 498 amino acid precursor protein.

### BIOLOGICAL ACTIVITY:

Determined by the dose-dependent stimulation of the proliferation of human umbilical vein endothelial cells (HUVEC).

### AMINO ACID SEQUENCE:

SNQRRSPENS GRRYNRIQHG QCAYTFILPE HDGNCRESTT DQYNTNALQR  
DAPHVEPDFS SQKLQHLEHV MENYTQWLQK LENYIVENMK SEMAQIQNA  
VQNHTATMLE IGTSLLSQTA EQTRKLT DVE TQVLNQTSRL EIQLLENSLS  
TYKLEKQLLQ QTNEILKIHE KNSLLEHKIL EMEGKHKEEL DTLKEEKENL  
QGLVTRQTYI IQELEKQLNR ATTNNSVLQK QQLELMDTVH NLVNLCTKEG  
VLLKGGKREE EKPFRCADV YQAGFNKSGI YTIYINNMPPE PKKVFCNMDV  
NGGGWTVIQH REDGSLDFQR GWKEYKMGFG NPSGEYWLGN EFIFAITSQR  
QYMLRIELMD WEGNRAYSQY DRFHIGNEKQ NYRRLYKIGHT GTAGKQSSLI  
LHGADFSTKD ADNDNCMCKC ALMLTGGWWF DACGPSNLNG MFYTAGQNHG  
KLNIGIKWHYF KGPSYSRST TMMIRPLDFH HHHHH

### RELATED PRODUCTS:

- ANG-2, human recombinant (**Cat. No. 7116-10, -50**)
- ANGPTL3 (human) Serum ELISA Kit (**Cat. No. K4914-100**)
- ANGPTL3 (mouse/rat) Serum ELISA Kit (**Cat. No. K4915-100**)
- ANGPTL6 (human) Serum ELISA Kit (**Cat. No. K4916-100**)

**FOR RESEARCH USE ONLY! Not to be used in humans.**