

## Human ANG-1 (HeLa cells)

Human Angiopoietin-1, recombinant, glycosylated, His-Tag

Synonyms:

*PLEASE NOTE: ALWAYS CENTRIFUGE VIAL BEFORE OPENING*

Size	Order #	Lot #	Expiry Date
5 µg	1121.959.005		
20 µg	1121.959.020		

Please enquire for bulk quantities and other vial sizes

### Description

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. The calculated molecular weight of Recombinant Human ANG-1 is 56.3 kDa. 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 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.

- **Biological Activity**            see below
- **Source**                            HeLa
- **Purity**                            ≥ 95 % (SDS-PAGE and HPLC)
- **Endotoxin level**                ≤ 0.1ng/µg (≤ 1EU/µg)
- **Stabilizer**                        Trehalose (5%)
- **Buffer**                            Sodium Phosphate (20mM, PH 7.5), NaCl (200mM)\*
- **Physical state**                 Sterile filtered, lyophilized

### Biological Activity

The biological activity was determined by its ability to induce adhesion of human umbilical vein endothelial cells (HUVEC).

### Reconstitution

We recommend a quick spin followed by reconstitution watert to a concentration of 1 mg/ml. Do not vortex. This solution can be stored at 2-8°C for up to 1 week or in working aliquots at -20°C to -80°C. Working aliquots should be at the highest practical concentration. For long term storage we recommend to add at least 0.1% HSA (ordernumber: 2835.955.xyz or 2835.958.xyz) or BSA.

### Stability

The lyophilized protein is stable at room temperature for up to 1 month and at least until the lot specific expiry date if kept below -18°C. Reconstituted ANG-1 is stable for 3 months when stored in working aliquots at -20°C to -80°C with carrier protein. **Please avoid repeated freeze-thaw cycles.**

\*The Buffer may vary depending on the Lot #. Please contact our technical support if you have specific requirements.

ORDERING  
 Tel.: +49 40 43208448-0  
 order@active-bioscience.de  
 www.active-bioscience.de

TECHNICAL SUPPORT  
 Tel.: +49 40 43208448-11  
 support@active-bioscience.de

Active Bioscience GmbH  
 Oberaltenallee 8  
 D-22081 Hamburg  
 HRB 98170 Amtsgericht Hamburg

**Amino Acid Sequence**

SNQRRSPENS GRRYNRIQHG QCAYTFILPE HDGNCRESTT DQYNTNALQR DAPHVEPDFS SQKLQHLEHV  
MENYTQWLQK LENYIVENMK SEMAQIQONA VQNHTATMLE IGTSLLSQTA EQTRKLTDVE TQVLNQTSRL  
EIQLLENSLS TYKLEKQLLQ QTNEILKIHE KNSLLEHKIL EMEGKHKEEL DTLKEEKENL QGLVTRQTYI  
IQELEKQLNR ATTNNSVLQK QQLELMDTVH NLVNLCTKEG VLLKGGKREE EKPFRCADV YQAGFNKSGI  
YTIYINNMPE PKKVFCNMDV NGGGWTVIQH REDGSLDFQR GWKEYKMGFG NPSGEYWLGN EFIFAITSQR  
QYMLRIELMD WEGNRAYSQY DRFHIGNEKQ NYRLYLKGHT GTAGQSSLI LHGADFSTKD ADNDNCMCKC  
ALMLTGGWWF DACGPSNLNG MFYTAGQNHG KLNGIKWHYF KGPSYSLRST TMMIRPLDFH HHHHH

**Usage:** For research use only. Not for use in diagnostic or therapeutic procedures. Not for human use.

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Active Bioscience GmbH  
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HRB 98170 Amtsgericht Hamburg