

Product Specification Sheet

Human Angiopoietin-1 (Ang-1) Protein

Cat. ANG12-C	Recombinant purified human Ang-1 protein for WB	SIZE: 100 ul
Cat. ANG16-R-10	Recombinant purified human Ang-1 protein (sf9)	SIZE: 10 ug

Embryonic vascular system undergoes a series of complex, highly regulated series of events involving differentiation, migration and association of primitive endothelial cells. This process is termed vasculogenesis. A further remodeling of the primitive vascular system forms the mature cardiovascular system. This process is known as **angiogenesis** (sprouting of new capillary vessels from pre-existing vasculature). Angiogenesis accounts for the formation of vasculature into previously avascular organs such as brain and kidney. Angiogenic activity in the adult is required during the normal tissue repair, and for the remodeling of the female reproductive organs (ovulation and placental development).

Angiopoietin-1 (mouse and human **Ang-1**; 498 AA; ~ 98% identity) is an angiogenic secreted protein that interact with endothelial specific Tie-2 receptor. It is primarily expressed in developing endothelial cells. During embryonic development, Ang-1 binds and induces tyrosine phosphorylation of Tie-2. Ang-1 appears to play a crucial role in mediating matrix and mesenchyme. It mediates blood vessel maturation and stability. Ang-1 may play a critical role in heart development. Ang-1 deficient mice mimic the phenotype exhibited by animals deficient in Tie-2. A homolog of Ang-1, termed **Angiopoietin-2** (mouse and human **Ang-2**, 496 AA; ~85% identity) has recently been identified. It may act an antagonist for Ang-1 and Tie-2. Ang-1 and Ang-2 have ~60% sequence homology.

Source of Antigen and Antibodies

Recombinant Human Angiopoietin-1 (Ang-1/ANGPT1, AGP-1, ANG-1, AGPT, angiopoietin 1 isoform a, angiopoietin 1 isoform b, KIAA0003), a 66 kDa protein consisting of 476 amino acid residues (21-496 aa), is fused to a N-terminal myc-tag and produced in insect cells (sf9) and purified (>95%). Recombinant protein calculated mol wt is ~55 kDa but the protein migrates as ~66-70 kDa band due to glycosylation. Human Ang-1 protein (#ANG15-R-10) is supplied in buffer 50mM Tris-HCL, pH 7.5, 150mM NaCl, 0.05% CHAPS at 0.1 mg/ml (see lot sp concn on the vial) or lyophilized in the buffer. Reconstitute the protein in PBS, pH 7.4 at >10 ug/ml. We recommend adding BSA or human serum albumin as protein carrier and then sterile filter the solution.

ANG-1 although stable at 140C 1 week, should be stored desiccated below -180C.

Biological Activity:

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

For Western blot +ve control (**Cat # ANG12-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **ANG12-C** for good visibility with antibody Cat # **ANG12-S or ANG12-A**. Store at -20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **ANG12-C-C** solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly

Storage

Short-term: unopened, undiluted vials for 1-2 weeks at 4oC.

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder.

General References:

Kwak HJ et al (1999) FEBS Lett. 448, 249; Davis S et al (1996) Cell 87, 1161-1169; Nomura N et al (1994) DNA Res. 1, 27-35; Suri, S et al (1996) Cell 87, 1171; Davis, S et al (1996) cell 87, 1161; Maisonpierre C et al (1997) Science 277, 55.

*This product is for in vitro research use only.

Related material available from ADI

Antibodies to Ang-1, Ang-2 , Recombinant Mouse and Human VEGFs, Anti-Tie-1 and Tie-2, Anti-flk-1, Flt-1, and Flt-4 (VEGFRs 1-3)

Ang12-C and ANG16-R-10

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