ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

# Human Angiogenin Antibodies

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| **Cat.** ANGN12-A | Goat Anti-Human Angiogenin protein IgG #2 | **SIZE**: 100 ug |
| **Cat.** ANGN12-C | Recombinant Human Angiogenin protein W. Blot +ve control | **SIZE**: 100 ul |

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). Certain pathological conditions, such as tumor growth and diabetic retinopathy, also require angiogenesis.

**Angiogenin** is a single polypeptide chain of 123 aa (mol wt ~14 kDa) secreted by tumor cells. It is a potent inhibitor of neovascularization. It specifically binds to endothelial cells and elicits second messenger systems. It has ribonucleolytic activity and is 33% identical to pancreatic RNAse A. Angiogenin has also been shown to undergo nuclear translocation in endothelial cells via receptor-mediated endocytosis and nuclear localization sequence-assisted nuclear import (11). Human and mouse angiogenin are 76% identical. The critical catalytic residues of human angiogenin are conserved in the mouse protein, as are the six cysteines necessary for disulfide bond formation. Several C-terminal synthetic peptides, including (**Ang 108-123**), significantly decreases angiogenin-induced neovascularization.

## Source of Antigen and Antibodies

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| **Antigen** | Human angiogenin protein was expressed in E. coli, purified (>95%), |
| **Ab Host/type** | Goat **polyclonal antibodies**. Antibodies (IgG, cat # ANGN12-A) was purified over Protein A/G column |
| **2-ab** | **Rabbit Anti-goat IgG-HRP conjugate** Cat # 30220 (AP, biotin, FITC conjugates also available) |
| **-ve control** | # 20011-1, goat (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control |

Recombinant Human angiogenin protein (`14 Kda) for Western blot +ve control (**Cat # ANGN12-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **ANGN12**-C for good visibility with antibody Cat # **ANGN12**-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 **ANGN12**-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. This preparation is intended for qualitative purpose and not to serve as standard of known concentration. Do not freeze, thaw, or hear repeatedly

## Form & Storage of Antibodies/Peptide Control

**Affinity pure IgG**

100 ug/100ul solution lyophilized powder

**Reconstitute powder in PBS at 1 mg/ml.**

**Storage**

**Short-term**: unopened, undiluted liquid vials for less than a week 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.

## Recommended Usage

**Western Blotting** (1-5 ug/ml for IgG pure using Chemiluminescence technique). Human angiogenin is ~14 KDa.

**ELISA** (0.5-2.0 ug antibody and 10-50 ng of control antigen/well).

**Neutralization of angiogenin activity**: ANGN12-A neutralizes biological activity of recombinant human angiogenin (cat #ANGN15-R-10) as measured by measurement of ribonucleolytic activity using tRNA (2). Approx. 100-200 ug IgG neutralizes 50% activity of 1 ug of angiogenin.

## Specificity & Cross-reactivity

Antibody crossreactivity in various species is not established. Human Angiogenin W. blot +ve control should be used as a control.

**General References**: Kurachi K et al (1985) Biochemistry 24, 5494-5499; Fu X et al (1997) Mol. Cell. Biol. 17, 1503-1512; Aharya KR et al (1994) PNAS 91, 2915-2919; Hu G et al (1994) PNAS 91, 12096; Lee FS et al (1989) BBRC 161, 121
Lee FS (1989) BBRC 161, 121

Citations of ADI's
antibodies for Angiotensin ( see updated list at the web site)

*This product is for in vitro research use only.

## Related material available from ADI

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

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