ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Human Angiogenin

Cat. ANGN15-R-50 Recombinant Human Angiogenin protein **SIZE**: 50 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). 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

Human angiogenin protein (123-aa, ~14 kDa) was expressed in E. coli, purified (>98%). Endotoxin level < 1.0 EU/1 ug protein. It is supplied as 50 ug/vial in PBS pH 7.4 (lyophilized). No preservative or carrier protein is added. Reconstitute in sterile PBS pH 7.4 or other buffers at no less than 100 ug/ml. It is recommended to add 0.1% BSA in the reconstitution buffer.

Store powder at –20oC or below. Reconstituted protein can be stored in a buffer containing BSA at 2-4oC for 2-4 weeks and –20oC or below for 3 months without significant loss of biological activity. Do not store diluted solutions without carrier protein.

Storage

Short-term: unopened, undiluted 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

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

Biological activity: Biological activity of recombinant human angiogenin (cat #ANGN15-R-50) is measured by ribonucleolytic activity using tRNA (2). 1.0 ug angiogenic produed an absorbance change at 260 nm of ~1.0-2.0.

General References:

(1) 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

(2) 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)

Western Blot recycling kit (Use the same blot to probe with multiple antibodies Ang-1 and Ang-2, etc.) **recycle blot at room temp in 5-10 min**; No mercaptoethanol or heating required).

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