

Product Specification Sheet

Human Angiostatin Protein (Kringles 1-4)

Cat. ANST11-R

Human Angiostatin Protein

SIZE: 100 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.

Recent studies have identified several proteolytic fragments or cryptic domains of proteins that act as inhibitors of angiogenesis. These include fragments of plasminogen such as **Angiostatin** protein (kringles 1-4) and kringles 1-5, C-terminal proteolytic fragment of Collagen XVIII (**Endostatin** protein), the NC10 domain of collagen 15 (**Restin**), the C-terminal hemopexin-like domain of **MMP-2 (PEX)**, the N-terminal fragment of prolactin, and the N-terminally truncated platelet factor. **Angiostatin** protein, a proteolytic fragment of plasminogen, is comprised of the **first four-kringle** regions. It prevents the growth of endothelial cells, and its systemic administration inhibits the growth of primary carcinomas in mice. Kringles 1-3 fragment has a greater inhibitory activity than the kringles 1-4 fragment. The protease-activated kringles 1-5 is the most potent plasminogen fragment with over 50-fold greater endothelial cell specific inhibitory activity. Its systemic administration inhibited the growth of fibrosarcoma and significantly reduced neovascularization.

Source & Storage

Human angiostatin protein (kringles 1-4) was purified from human fluid that has been shown by certified tests to be negative for HbsAg and HIV and HCV. However, all precautions must be taken to avoid contamination.

Purified preparation has a purity of >98% by SDS-PAGE (migrates as doublet at 50 kDa). Human angiostatin significantly inhibits bFGF-induced endothelial cell proliferation and migration at concentration ranging from 300nM-1.0 uM. It is supplied in Hepes buffer 20 mM, NaCl 40 mM, pH 8.0 in either liquid (100 ug/100 ul) or in lyophilized form.

The **lyophilized products** should be reconstituted (Add 100 µl water or a desired buffer at a given volume and lightly vortex and mix for 15 min at room temp). It can then be used or aliquoted for storage in small aliquots at -70oC or below.

This preparation is not necessarily sterile.

General References:

Peterson Te et al (1990) JBC 265, 6104-6111; Forsgren m et al (1987) FEBS Lett. 213, 254-260; Malinowski DP et al (1984) Biochemistry 23, 4243-4250; O'Reilly MS et al (1994) Cell 79, 315-328; Sim BK et al (1997) Cancer Res. 57, 1329-1334; Wu Z et al (1997) BBRC 236, 651.

Citations of ADI's antibodies for Angiogenesis related products (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).

ANST11-R 71130S

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