

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Angiogenin in ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human Angiogenin (R&D Systems, Catalog # 265-AN) Gln25-Pro147 Accession # Q53X86
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human Angiogenin (Catalog # 265-AN)
Human Angiogenin Sandwich Immunoassay		Reagent
ELISA Capture	2-8 µg/mL	Human Angiogenin Antibody (Catalog # MAB265)
ELISA Detection	0.1-0.4 µg/mL	Human Angiogenin Biotinylated Antibody (Catalog # BAF265)
Standard		Recombinant Human Angiogenin (Catalog # 265-AN)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Angiogenin was initially purified from serum-free media conditioned by growth of a human adenocarcinoma cell line HT-29 based on its ability to initiate vascularization in the chicken embryo chorioallantoic membrane. A number of other tumor, as well as normal, cell lines can also secrete Angiogenin. In addition, Angiogenin is present in normal human plasma at levels as high as 60 - 120 ng/mL. Unlike other angiogenic factors such as FGF, Angiogenin is neither mitogenic nor chemotactic for vascular endothelial cells *in vitro*. However, Angiogenin can stimulate capillary and umbilical vein endothelial cells to produce diacylglycerol and secrete prostacyclin by phospholipase activation. Angiogenin, absorbed on plastic, can also support endothelial and fibroblast cell adhesion and spreading.

Surprisingly, Angiogenin has been found to be a member of the ribonuclease superfamily with approximately 35% sequence similarity at the amino acid level with pancreatic RNase. Angiogenin exhibits ribonucleolytic activity that is distinctly different than that of pancreatic RNase A. The ribonucleolytic activity of Angiogenin toward most RNase A substrates is much lower than that of RNase A. Nevertheless, the ribonucleolytic activity of Angiogenin is essential to its angiogenic activity since inhibition of the Angiogenin RNase activity will also abolish angiogenesis activity. Similar to several members of the RNase superfamily, Angiogenin is a cytotoxic agent that can abolish cellular protein synthesis. It has been demonstrated that Angiogenin-dependent protein synthesis inhibition can be attributed to the function of Angiogenin as a cytotoxic tRNA-specific RNAase.

A cell-surface Angiogenin binding protein has been purified and characterized. Tryptic peptide mapping and sequence analysis indicate that this binding protein is a member of the actin family.