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ANG I Polyclonal Antibody

Catalog # AP73726

Product Information

Application	WB, IHC-P
Primary Accession	P03950
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	16550

Additional Information

Gene ID	283
Other Names	ANG; RNASE5; Angiogenin; Ribonuclease 5; RNase 5
Dilution	WB~~Western Blot: 1/500 - 1/2000. IHC-p: 1:100-1:300. ELISA: 1/10000. Not yet tested in other applications. IHC-P~~Western Blot: 1/500 - 1/2000. IHC-p: 1:100-1:300. ELISA: 1/10000. Not yet tested in other applications.
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20℃

Protein Information

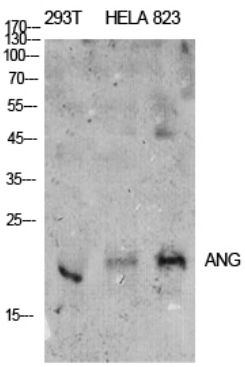
Name	ANG {ECO:0000303|PubMed:11919285, ECO:0000312|HGNC:HGNC:483}
Function	Secreted ribonuclease that can either promote or restrict cell proliferation of target cells, depending on the context (PubMed:12051708, PubMed:1400510, PubMed:19332886, PubMed:20129916, PubMed:21855800, PubMed:23047679, PubMed:23843625, PubMed:2424496, PubMed:2459697, PubMed:2730651, PubMed:27518564, PubMed:28176817, PubMed:29100074, PubMed:29748193, PubMed:3122207, PubMed:32510170, PubMed:38718836, PubMed:8159680, PubMed:8570639, PubMed:8622921, PubMed:9578571). Endocytosed in target cells via its receptor PLXNB2 and translocates to the cytoplasm or nucleus (PubMed:29100074, PubMed:32510170). Under stress conditions, localizes to the cytoplasm and promotes the assembly of stress granules (SGs): specifically cleaves a subset of tRNAs within anticodon loops to produce tRNA- derived stress-induced fragments (tiRNAs), resulting in translation repression and inhibition of cell proliferation (PubMed:1400510, PubMed:19332886, PubMed:20129916, PubMed:21855800, PubMed:23047679, PubMed:27518564, PubMed:29100074, PubMed:29748193, PubMed:32510170, PubMed:38718836). tiRNas also prevent formation of apoptosome, thereby promoting cell survival (By

	similarity). Preferentially cleaves RNAs between a pyrimidine and an adenosine residue, suggesting that it cleaves the anticodon loop of tRNA(Ala) (32-UUAGCAU-38) after positions 33 and 36 (PubMed:3289612, PubMed:38718836). Cleaves a subset of tRNAs, including tRNA(Ala), tRNA(Glu), tRNA(Gly), tRNA(Lys), tRNA(Val), tRNA(His), tRNA(Asp) and tRNA(Sec) (PubMed:31582561). Under growth conditions and in differentiated cells, translocates to the nucleus and stimulates ribosomal RNA (rRNA) transcription, including that containing the initiation site sequences of 45S rRNA, thereby promoting cell growth and proliferation (PubMed:12051708, PubMed:15735021, PubMed:27518564, PubMed:29100074, PubMed:8127865). Angiogenin induces vascularization of normal and malignant tissues via its ability to promote rRNA transcription (PubMed:19354288, PubMed:4074709, PubMed:8448182). Involved in hematopoietic stem and progenitor cell (HSPC) growth and survival by promoting rRNA transcription in growth conditions and inhibiting translation in response to stress, respectively (PubMed:27518564). Mediates the crosstalk between myeloid and intestinal epithelial cells to protect the intestinal epithelial barrier integrity: secreted by myeloid cells and promotes intestinal epithelial cells proliferation and survival (PubMed:32510170). Also mediates osteoclast-endothelial cell crosstalk in growing bone: produced by osteoclasts and protects the neighboring vascular cells against senescence by promoting rRNA transcription (By similarity).
Cellular Location	Secreted. Nucleus. Nucleus, nucleolus. Cytoplasm, Stress granule. Note=The secreted protein is rapidly endocytosed by target cells following interaction with PLXNB2 receptor and translocated to the cytoplasm and nucleus (PubMed:29100074). In the nucleus, accumulates in the nucleolus and binds to DNA (PubMed:12051708).
Tissue Location	Expressed predominantly in the liver (PubMed:2440105). Also detected in endothelial cells and spinal cord neurons (PubMed:17886298, PubMed:2440105)

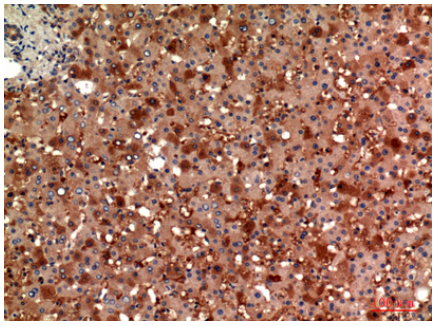
Background

Binds to actin on the surface of endothelial cells; once bound, angiogenin is endocytosed and translocated to the nucleus. Stimulates ribosomal RNA synthesis including that containing the initiation site sequences of 45S rRNA. Cleaves tRNA within anticodon loops to produce tRNA-derived stress-induced fragments (tiRNAs) which inhibit protein synthesis and triggers the assembly of stress granules (SGs). Angiogenin induces vascularization of normal and malignant tissues. Angiogenic activity is regulated by interaction with RNH1 in vivo.

Images



Western Blot analysis of 293T, Hela, 823 cells using ANG I Polyclonal Antibody. Antibody was diluted at 1:500. Secondary antibody was diluted at 1:20000 cells nucleus extracted by Minute TM Cytoplasmic and Nuclear Fractionation kit (SC-003,Inventbiotech,MN,USA).



Immunohistochemical analysis of paraffin-embedded human-liver, antibody was diluted at 1:100